Research expo in a 3D virtual campus environment

Promising Practice

Implemented by: Malta College of Arts, Science and Technology (MCAST)

Where: Malta

Status: Implemented from December 2020 to January 2021

Summary: The aim of this initiative was to organize an innovative virtual research expo on TVET themes using a 3D virtual campus environment

Overview

The Malta College of Arts, Science and Technology (MCAST) is the largest vocational education and training institution in Malta and offers qualifications pegged at Level 1 to Level 8 of the European Qualifications Framework (EQF).

Research and Innovation Expo

Research at MCAST has gained significant momentum in the last few years, which has seen a boom in applied research projects spanning across a variety of research areas and disciplines. Following the establishment of the MCAST Research Framework, including the engagement of a new research management team, MCAST lecturers now have the continuous support to develop their research ideas into full-fledged projects. This has resulted in a significant number of publications in international peer-reviewed journals, collaboration with international partners and local stakeholders, as well as engagement in externally-funded research projects. To celebrate the 20th anniversary of MCAST and to disseminate research results, a research and innovation expo was organized in December 2020.

3D virtual campus environment

Despite the limitations imposed by the COVID-19 pandemic, MCAST rose to the challenge by hosting the expo within a novel immersive 3D virtual campus environment. The platform engaged researchers and a total of two hundred and fifty guests, allowing each individual to interact digitally with colleagues as customisable avatars. This approach enabled more flexibility in the programme as physical space was no longer an issue. Furthermore, it allowed international participants to attend without the need to travel.

Rethinking the conference setting

Researchers were able to present their work on a virtual stage and to address their seated audience, and guests could choose to attend different parallel sessions taking place within four halls, while participating in an active question and answer session. One of the most interactive areas of this virtual campus was the Expo Hall, which exhibited projects by students who had just completed their degree dissertation, together with initiatives at MCAST in relation to Artificial Intelligence, EdTech and the European Institute of Innovation & Technology. The virtual environment allowed the possibility of having customizable exhibition stands for each of the students, where they were able to showcase their research posters and related prototype or artwork for the Expo.

Objectives

The objective of this initiative was to organize a research expo on TVET themes despite the restrictions imposed by the pandemic, and hence provide an opportunity for researchers to disseminate their findings. The researchers included MCAST lecturers and students who had finished their dissertations for a bachelor's or master's degree. The audience included students, lecturers, managers, policy-makers and stakeholders from industry.

Boosting the status of TVET

The research expo was one of several initiatives that helped to boost the status of technical and vocational education and training (TVET) in Malta, which is still viewed negatively in comparison with traditional academic tracks. The use of the 3D virtual campus also addressed the problem of accessibility during the uncertain times of the pandemic.

Outcomes and impact

Recorded outcomes of the initiative:

- 40 students and 96 researchers from MCAST's six institutes presented their research projects over two days
- 250 guests participated in the virtual research expo
- Guests included the Minister of Research, Innovation and Co-ordination of Post-COVID-19 Strategy together with the Minister of Education
- Around **500 NGOs, local organizations and charitable entities** have showed interest in the initiative and have stepped up to offer students opportunities to do community projects

Knowledge sharing

During times characterized by COVID-19 restrictions, the 3D virtual campus environment enabled MCAST students and staff to share the outcomes of their research projects. Furthermore, each individual researcher and guest was able to interact digitally with others through the use of an avatar.

The themes of the research expo also addressed several of the Sustainable Development Goals, namely good health and well-being (SDG 3); quality education (SDG 4); industry, innovation and infrastructure (SDG 9); and sustainable cities and communities (SDG 11).

Challenges and insights

Learning how to use new software

The major challenge during the implementation phase was familiarizing users with the 3D virtual campus software package. The platform was completely new to the Research and Innovation Management Team at MCAST, who was responsible for organizing the event; MCAST students and staff, who presented their research projects; and the public, who attended the research expo.

This major challenge can be attributed to a lack of experience in organizing, hosting and participating in an online event at this level. To address the lack of familiarity with the 3D virtual campus software, a representative from the software company was enlisted to provide support during the preparation phase and during the event. The Research and Innovation Management Team dedicated time to navigating the software before the event and was eventually in a position to guide MCAST students and staff who were going to present their research projects. Detailed guidelines and emails were prepared to facilitate the process. Furthermore, a mock session was organized a few days before the event.

Providing technical support

Following the event, researchers and guests discussed how they found the innovative approach adopted by MCAST as motivating. In particular, they appreciated that they were allowed to proceed with the expo and also that through their avatars, they were able to interact as much as one would expect to do in a physical expo. Some even commented that they found this approach to be more engaging and they felt that they had more opportunities to interact with others.

Interestingly, while MCAST students and staff are digitally literate and make continuous use of technology for teaching and learning activities on a daily basis, some individuals were still apprehensive about the use of technology in their role of presenters or participants. The lesson learnt in this aspect is to never assume that prospective users have enough confidence when using new platforms and to always provide the necessary technical support especially at the initial stages of implementation.

Next steps

The MCAST Applied Research and Innovation Centre is committed to leading in innovation by understanding what is available in the market and what can be implemented to provide TVET students and staff with similar opportunities in the future. In particular, the EdTech team within the centre is focusing on how technology can be integrated into teaching and learning to provide more meaningful experiences to TVET students at MCAST. An example of this is a project supported by the European Social Fund which is focusing on the use of gamification to provide individual learning pathways for students enrolled in foundation programmes.