ELEARNINGNEWS ARTICLE

Year 7 - number 252 Wednesday 21 June 2023

Metaversity, why universities should embrace the metaverse

The Metaverse is considered the next technological frontier in education. But what are the benefits of its application in universities?

Over the recent years, technology has significantly transformed the field of **education**. Digital learning has first flanked traditional learning as a supplementary tool, and then in some cases completely replaced classroom lessons. Online courses have become a learning mode in their own right. This has led to the development of **fully digital universities**, where students are able to follow lectures and take exams using only a computer and an Internet connection.

But technological progress has not stopped there and, more recently, augmented reality has emerged as an important tool in education. The merging of the digital and physical worlds has allowed the development of the Metaverse, a virtual place with which students can interact, and has led to the possibility of the creation of **Metaversities**, universities that use augmented and virtual reality to allow students to interact with each other and with lecturers.

What is the Metaverse?

As we have already explained in a previous article, the **Metaverse** refers to a "virtual reality space in which users can interact with a computer-generated environment and with other users". An environment where digital meets reality, allowing people to speak and act in a virtual situation, which, however, simulates places that exist, have existed in the past or may exist in the future in the world in which we live.

This technology has enormous potential and represents a **new frontier** for e-learning and the world of learning in general. The Metaverse, in fact, would allow learners to go beyond their physical limits and immerse themselves in a computer-generated universe in which they can move freely, share and face situations that look completely real.

The word Metaverse, therefore, refers to a set of technologies that allow people to interact in a **virtual world** created by the computer and alternative to the real one. To enable the user to act in the Metaverse, avatars are created, able to move, speak and perform the actions chosen by the physical persons on this side of the screen. Augmented reality and AI can enable the introduction of the Metaverse into different areas of everyday life, first and foremost education.

E-learning and universities

Digital has become an integral part of the learning process at all levels of education, facilitated especially by the lockdown period caused by the Covid-19 pandemic. Even universities, during the government-imposed shutdowns, had to review their educational offerings and move courses that were previously delivered face-to-face to **digital platforms**. Thus, students were able to continue to attend lectures and take exams from home.

Already in previous years, telematic universities had taken off, offering students the possibility of taking classes online at any time and from anywhere. Examinations can also be taken from home, whether for an oral interview or a written test. Universities that use e-learning provide the student with teaching materials, which can be retrieved on the platform, and the possibility of carrying out exercises and simulations. Furthermore, interaction with lecturers and among students themselves is facilitated by virtual discussion spaces, such as messaging services or digital spaces where opinions can be exchanged.

Subsequently, universities have begun testing virtual reality technology, forming what are called **Metaversity** or MetaUniversity, i.e. digital environments created using virtual and augmented reality, in which lecturers and students can interact with each other, using an avatar capable of performing the actions dictated by the user. In this way, future students can choose which path of university study to take, experiencing it in the Metaverse, just as students can immediately put into

practice what they have learnt in theoretical lessons, carrying out simulations that come as close as possible to real scenarios, thanks to the immersive reality created in the Metaverse.

The main objective of the universities is to use this new technology to enhance the involvement of remote learners and to allow for more experiential learning in degree courses.

Metaversity, the benefits

But why should universities consider using the Metaverse? The advantages it would bring are not insignificant and, without a doubt, worth considering. Metaverses, in fact, would bring with them the following benefits for education:

1. **Immersive learning experience**, which would allow the learner to deepen theoretical knowledge through more engaging and interactive lessons, compared to both traditional learning and static online lessons. The Metaverse provides users with a range of technologies that allow them to fully immerse themselves in the virtual world and diversify the learning mode according to their needs. Thanks to augmented reality, abstract and complex concepts can be more easily understood and visualised, making in-depth knowledge possible. The learner would go beyond the mere theoretical concept, grasping its applications and relations to the real world. This type of immersive learning would lead to an easier understanding of theoretical concepts.
2. **Learning through practice**, which would allow the student to experience during his or her training the situations he or she might encounter in authentic, real-world environments. Simulations using augmented reality would enrich students with practical experiences, no longer limited to controlled environments. Thus, the student could act as risk-free as if he or she were facing a real situation, putting into practice all that he or she has learnt during the lessons. For example, a chemistry student could conduct virtual experiments, an economics student could manipulate variables to observe the real-world reaction, and a future doctor could operate on a virtual patient. Not only that. Users could also virtually visit places and times that no longer exist, but which have been reconstructed through technology: a sort of time travel that would allow them to witness historical events and experience past events first-hand. Through the use of this technology, users would be able to develop a high level of problem-solving skills without taking risks.
3. **Customisation of the route independently**. The student could construct, according to his needs and inclinations, a training project, following the mode and timing best suited to him. The Metaversity could meet the learning needs of each individual, adapting to each one's rhythm and providing personalised content that could be customised by the user himself, who could decide autonomously how to move around the platform, choosing the learning modes he prefers. In addition, the user could review the content he or she accessed whenever he or she felt the need. In this way, the control of learning would be in the hands of each individual learner and not in those of the teacher, unlike in traditional face-to-face training and classic e-learning.
4. **Increased interactivity**, facilitated by the ability to move around in virtual space and talk to people they meet in the augmented reality generated world. Students and lecturers will thus be able to exchange views on the course and talk to each other in a less formal way than an e-mail or an official online interview would require.
5. **Increased collaboration among students**, thanks to the possibility of peer interaction and sharing impressions and information in real time. Metaversities would allow users to collaborate on projects within the virtual world, meet to exchange ideas and study together in the Metaverse, independent of where they are in reality. This feature of Metaverses fosters greater collaboration among students in a course, without the presence of a teacher's mediation, also helping them to improve their communication skills and allowing them to experience the teamwork and collaboration required in many work environments.
6. **Improved accessibility of learning**. Metaverses would allow learners to immerse themselves in the virtual world using the modalities that best meet their needs and requirements. Indeed, access to the Metaverse could be from different devices such as viewers and screens or from mobile devices, allowing the user to personalise the learning experience and eliminating all physical barriers that might make access to training difficult for some people. In addition, the learner would be able to make use of virtual resources or specialised equipment, which he or she would not be able to experience in reality, due to their high cost or difficulty of access.
7. **Cancellation of physical distances**, which would no longer represent a limitation. In the Metaverses, an Italian student could easily come into contact and meet a fellow student in America or Japan. This dynamic could lead to the **internationalisation of universities**, making it possible to organise events with participants from all over the world, without incurring high costs and eliminating any travel problems. In this way, physical distances would be completely eliminated, and all related problems would also be eliminated: in the Metaverse, everyone can meet, regardless of where they are physically located at that moment.