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How the Metaverse will change the world of e-learning

What is the Metaverse and its plus for e-learning? The future of digital education comes through a parallel universe, combining real and virtual worlds in a unique experiential environment

Technology has changed the way schooling and job training are understood, giving students the opportunity to learn elastically, according to their own needs and time. But the future of education may lie in a new **virtual world**, combining reality and digital, with the creation of an alternative place where one can act through an avatar of oneself, making the virtual experience completely immersive.

What is the Metaverse?

"Hiro is not where he is at all, but rather in a computer-generated universe that the machine is drawing on his goggles and pumping into his earpieces." It was 1992 and writer Neal Stephenson had published *Snow Crash*, a science fiction novel. For the first time, the pages of that book spoke of an "imaginary place" created by a computer. This virtual world came to be called the **Metaverse**.

The term Metaverse thus denotes a set of technological elements, which allow people in the physical world to interact and act within an **alternative virtual world**. It is a space created for the user, who, through a three-dimensional version of himself in avatar format, can perform any action he would also do in the real world, such as interacting with other **avatars**, moving and speaking, bringing his own identity into the digital.

The Metaverse could become the next frontier of technology. Various technologies, such as **augmented reality** and **artificial intelligence**, used with the aim of bringing users together within an immersive alternative world, could intervene to enable interaction in the virtual world. People could work, visit a museum, talk to their friends or even take a trip simply thanks to their avatar, which would perform all these actions in a parallel digital world.

Following the increasing introduction of new technologies that have invaded people's daily lives, the Metaverse could represent the evolution of the Internet, social networks and video games, as well as a future form of communication. Computers may become the tools needed to access virtual spaces shared with physical ones in which to live a parallel life.

The metaverse and didactics

Despite the fact that new technologies have changed the daily lives and habits of workers and students all over the World, **teaching** and training have still remained strongly tied to a model of education based on physicality, in a teacher-student relationship that often takes place in presence, in certain physical places such as classrooms, and that remains identical for all pupils. At most, for user-friendly education, the teacher can intervene, who refines the course according to requests, but is unable to totally revolutionize it to provide the student with a completely tailored course.

The Covid-19 pandemic, however, has forced schools, universities, and, in general, all training facilities to move training to **digital platforms**. Thus, distance learning became the rule all over the world: the teacher held classes from his or her home, transmitting them through a computer to the students, who were also in their own abodes. This condition has certainly given greater impetus to **e-learning** as well, which has developed in recent years in both school and work settings, giving students the opportunity to receive training tailored to their needs and to be able to manage their time more flexibly.

Thanks to new technologies, the boundary between the virtual and physical worlds has become increasingly thin, and digital has often supplanted face-to-face teaching. It is possible that, with the Metaverse, videos typical of the e-learning experiences will give way to **immersive situations**, thanks in part to the use of augmented and virtual reality. Thus, as we have already covered in a previous article, the Metaverse could be the **new frontier** of e-learning. This new virtual world, in fact, could make it

possible to go beyond the physical limits, imposed by the real world and, to a certain extent, also by the digital world as it is understood today, and could help to step into immersive realities, which "offer new learning paradigms."

In education, humans have always been tied to the physical environment of the classroom. With e-learning, however, classrooms have moved online. But the Metaverse has an edge: it would allow us to go further, combining the advantages that traditional learning offers with those of virtual education, all in a single platform, for real experiences in a parallel universe.

By combining different technologies, the Metaverse would provide users with a space in which they can study, interact with their classmates and teachers, and simulate real-life situations, so as to make understanding more effective and immediately test practical skills learned.

Applications

The **application areas** of the Metaverse are many. But given the possibility of making digital experiences immersive, this virtual universe certainly also lends itself to a number of applications in the field of e-learning. In particular, it could be useful for:

- **Creating virtual simulations**, to allow users to practice with real scenarios, but in a controlled, risk-free environment. In this way, students can develop practical skills at the very moment of learning and can learn right away how to handle complex situations, which they might face in the real world.
- **Test skills**, through the creation of practice tests, useful for verifying skills learned not only in theory, but also in practice.
- **Use virtual collaboration spaces**, where they can find each other to exchange opinions, share doubts or make decisions collaboratively. Although this practice is already widespread in the digital environment, the Metaverse would make them more engaging and interactive, as if the whole thing were happening in a real environment, but with the advantages that technology offers.

The Metaverse applied to training, then, will help maintain **immersive learning**, fostering immersion, sociability and the emergence of new tools. Learning will be **more immersive** because students will no longer have access only to static audiovisual documents, but will be able to make use of more immersive content, typical of virtual and augmented reality. Thanks to these tools, simulations will become more and more like real life, making them increasingly effective at learning. The Metaverse, moreover, could foster **sociality**, even more effectively than e-learning tools are already doing. Finally, the application of a parallel virtual universe to the educational sphere could lead to the dissemination of **new training tools** and the creation of increasingly student-friendly learning paths, offering effective and engaging learning that can also foster the social aspect played by schools today.

E-learning and the Metaverse: the plus

Since the Metaverse combines virtual and real-life experiences, it can bring several advantages when used in school and work training. Here are some advantages:

1. **Engagement**, fostered by an immersive experience in a parallel universe, which promotes concentration and understanding of learning topics.
2. **Creativity**, which would be enhanced by the use of new technologies that can combine the real and virtual to give a completely new face to training.
3. **Personalization** of the course of study, which could be tailored to the user. To do this, the use of artificial intelligence could be crucial, because it can analyze the performance, preferences and behaviors of each student, so as to understand his or her real needs and build ad hoc pathways.
4. **Interactivity** among users and between students and professors. The Metaverse, in fact, could be the meeting place between people who work or study remotely and who, therefore, cannot interact with each other live. Thanks to the virtual world, avatars will still be able to exchange ideas, projects and carry out activities together, going beyond digital learning and meeting places already present on the web, such as chat rooms.
5. **Assessment**, which will be able to be done more precisely, easily testing students' practical skills as well, thanks to simulations, which will be increasingly similar to real situations. In addition, the technologies used in the Metaverse will allow real-time assessment.

6. **Increased inclusiveness**, fostered by the possibility given to everyone to carry out any activity within this parallel universe, without the physical limitations that the real world imposes.
7. **Speed of learning**, fostered by the involvement of immersive virtual reality, which will create an effective union between gaming and teaching, making training more enjoyable and faster.
8. **Practicality**, which will be fostered by the possibility of stepping into real-life situations to put the knowledge learned in theory into practice. This will give the training an effective practical facet.

In conclusion

The Metaverse could represent the new frontier of education, in a union between traditional learning, linked to the physical presence of students in the classroom, and e-learning. Thus, the student could find himself catapulted into a parallel virtual world, in which he himself in the form of an avatar will be able to talk to other people, move around and observe that digital world that projects him into another dimension. This situation would represent a further change in education, which would be enriched with new technologies, tools and strategies, useful for making virtual learning more engaging and effective.