Development of Training Sessions for a Three-Dimensional Technological Environment

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Annotasiya: Ushbu maqolaning maqsadi 3D texnologik muhit va ta'lim faoliyatini loyihalash haqida umumiy ma'lumot berish, ularning pedagogik imkoniyatlariga alohida e'tibor qaratishdir.

Kalit sozlar: 3D texnologik muhit, loyihalash, interfeys, elektron faoliyat, model.

Online education and technology are expanding educational opportunities and making a quantum leap forward. The digitalization of educational spheres implies a change in professional activity and educational needs. Moving beyond the physical concept of an educational institution into a more conceptual space of learning opens up new, more diverse learning opportunities that are more relevant to today's students. This new educational model is based not on teacher control, but on student self-management, and requires the development of a script that directs students to what they really need.

The graphic design of 3D visual communication is an emerging but important area of digital content presentation in any discipline because scenarios, settings, graphics, models, sounds and colors largely determine whether users decide to stay in a 3D environment or not. Therefore, it is important to develop a design methodology that defines the technological tools used; i.e. defining a team with defined roles and functions; optimization of development time, reaching design agreements and therefore avoiding repetitive processes and obtaining the desired product.

The necessary models for designing educational activities in a 3D technological environment are as follows: when designing educational areas in a 3D environment that mainly uses simulation modeling, it is necessary to keep in mind a number of principles that should not depend on the specific content being organized. The environment should allow learners to communicate and collaborate as the environment should be networked to facilitate distributed interaction and collaboration. In a 3D environment, students are usually represented by avatars imitating human figures with the same image and physical structure. These avatars are the eyes and hands of the disciples. The environment should allow students to evaluate them through tutorials, feedback, and case studies. Students and the groups they work with must be able to adjust, act, create and analyze small actions to solve problems. To be active, active and dynamic in this "imaginary" digital world, they must be able to make real-time decisions about all the situations they find themselves in. All this, if the environment has the appropriate characters and tools that allow you to interact and "live" in this simulated world, there are different things to consider when designing possible actions. First, virtual environments and environments for teaching and learning must be designed from an interdisciplinary perspective and be accessible to both teachers and students. Secondly, these activities must be able to adapt to the virtual environment for teaching and learning in the short and long term, as well as the evolution of social software, Web 2.0 and 3D immersive environments or virtual worlds. Another thing to consider is that designing a virtual environment for teaching and learning doesn't end with the choice of technology resources. and plans for their use. Participants' use of these resources and their evolution must also be monitored, the extent to which the educational goals they are intended to achieve must be evaluated,

and they must be redesigned and adapted accordingly. In this regard, collaboration and exchange between end users (mainly teachers and students), instructional designers and technology developers is important for optimizing virtual environments for teaching and learning [1; 97].

3D virtual environments should include the following elements: design of various models and 3D virtual environments to explain the process.

The process of designing and customizing electronic activities in 3D virtual worlds consists of the following steps:

1. Choosing a virtual world.
2. Create and manage appropriate spaces in an immersive environment.
3. Creation and management of the study guide.
4. Develop learning strategies and plan appropriate activities for the immersive experience.
5. Teach students the necessary competencies to manage an immersive environment.

The activity design scheme in a virtual three-dimensional environment is determined in the following order: [3; 60]

Stage 1. Introduction and motivation.

At this stage, participants gain access to the virtual environment and acquire the necessary skills to use it. In the virtual world, they need to have some basic competencies to manage their avatar's interaction with the environment and other users. These competencies are very similar to those required in the real world: mobility and communication. If you need to solve problems with orientation that can lead to loss of motivation, it is very important at this stage to have a teacher or tutor who easily navigates in a virtual environment. Learning support should be asynchronous and is designed to provide synchronous solutions.

Stage 2. Socialization.

At this stage, students establish their identity in the virtual world and begin to interact. with themselves and their teachers, participants become accustomed to using the tools of the virtual world to communicate with their peers, and a learning community begins to take shape that allows geographically dispersed online learners to feel like they are working together toward a common goal. The technologies that support these platforms for communication and social interaction create or facilitate situations of socialization, which is the first step in creating a well-coordinated working group. In order for educational activity to be built in the virtual world, there must be a clear interaction of the teacher.

Stage 3. Exchange of information.

In this case, students get acquainted with the content of the forum and begin to exchange information about the main activities offered, the increase in the amount of information and the need to work with them can cause students to feel bored. They begin to develop various strategies to cope with the demands and time required to understand the material.

4. Tariff scenarios

During this phase, the subject matter expert and the design educator work to decide how many scenarios fit the project's needs and expectations, context, period, and style to be modeled in the virtual 3D environment. Three main scenarios for teaching and learning in the virtual world have been identified:

➢ Content presentation. This scenario is an avatar entering a 3D virtual world. At this stage, the subject matter expert and educator-designer provide visual requirements for the content of the presentation block knowledge and determine how users will use the site and published resources (images, texts, animations, documents or website links, etc.).

➢ Working environment. This environment is used to record activities that students need to complete. The scenario and staging of this environment will depend on the topic chosen by the teacher. The activity can progress in a meaningful scenario or in a separate scenario, depending on preference.

➢ Meeting place for participants. Here avatars can communicate in social networks. Teachers can use this to meet students at a pre-set date and time.

5. Sketches and white paper

At this stage, at least three sketches are made: a top view, a front view, and a side view. They are checked, corrected and approved by a specialized specialist and a methodologist. Concept art must include a map of the area where the 3D scenarios will be played. The white paper should be based on the specifics of each project.

6. Preparing to Create a Script

Before creating scripts, you need to set up the avatar and the ground, they will be aligned.

7. Scenario production

Before creating the customization items that should be in each scenario, you need to change the predefined area of the 3D virtual world.

8. Design of the installation elements

Graphics must be created, they can be part of the decor or equipment.

9. Final amendments

Before a product is finalized, it must be reviewed by a subject matter expert, tutorial developer, and technology consultant.

In a word, the three-dimensional technological environment and the design of educational activities, their pedagogical capabilities are increasingly being used in education. In particular, the creation of 3D technology environments and the experience of learning to design learning events allows distance learning to be structured in an interesting way and is quickly becoming a key part of the entire learning space. Despite the growing interest of practitioners and researchers in the possibilities of these unique learning environments for learning and knowledge sharing, modern technologies of the virtual world open up a number of opportunities that require further development. Higher education institutions must see the potential of these technologies and integrate them into their daily teaching and learning practices.

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