



Evaluation of Tourist Attractions Through Virtual Reality

KEYWORDS

Tourist Resources, Virtual Reality, Education.

M.Sc.IT Alma Lilia González Aspera

Research Professor. Faculty of Information Technologies. Technological University of Morelia.

EdD Gricelda Rodríguez Robledo

Research Professor. Faculty of Information Technologies. Technological University of Morelia.

MBA Carmen Araceli González Aspera

Research Professor. Department of Economics and Management. Technological Institute of Morelia.

MBA Leticia Rubicela Rodríguez Ruiz

Research Professor. Faculty of Information Technologies. Technological University of Morelia.

INTRODUCTION

Nowadays, Information Technologies (IT) play an increasingly active role in our daily life, and education is precisely one of the areas where IT influence many aspects of the teaching-learning process.

Among the diversity of areas that make up the IT, we find the Virtual Reality (VR), which reveals itself as a modern technological lead, whose origins date back to 1957 when Morton Heilig devised it in the design of his machine named Sensorama. The VR is defined as a technological resource composed of a 3D (third dimension) simulation called "environment" or "virtual world". For William (Sherman, 2003), the images produced by the VR, pretend to be an analogy of space and real or imaginary scenarios that allow contextualize the objects of an environment and its communicative aim, where the user implements multiple sensory pathways to interact with simulation objects, allowing the user the feeling of being mentally immersed to achieve a better understanding of the complex information shown concretely.

According to Garcia Ruiz (2007), and as a result of the experiments carried out by Sherman and Judkins (1994) in the University of Washington, it was concluded that with this technology students can learn faster and assimilate information more consistently, than through the use of traditional teaching tools, as the technology itself allows you to use almost every sense. Students can not only read text and view images in a virtual reality helmet, but also can listen to narrations, sound effects and music related to the topic they are learning; it is also possible to manipulate objects through the use of interactive gloves.

To Casey (1994), VR extend the horizons of the education field, beyond the borders of a class, providing students and teachers a set of multisensory tools. This can generate an effective transfer of knowledge. The ability to interact in this 3D environment can stimulate curiosity and mental processes necessary to generate learning, promoting new ways of thinking (Vera, 2003).

An educational product with VR can serve multiple educational psychology theories ranging from behaviorism, cognitivism and constructivism. For Garcia-Ruiz (1998), behaviorism is applied to the VR through the systematic control that you have over the use of peripheral devices, while the cognitivism with VR is reinforced by the use of a computer

system and mental processes assimilation; Finally there is the VR constructivist theory (Moore, 1995) where students, using the virtual environment in first person, manipulate virtual objects to be projected, directly and actively, socializing learned lessons.

The possibilities offered by the VR to incorporate 3D models into specific scenarios and interact with the environment, represents a great support for the educational tourist area, particularly in the creation of technological teaching resources to improve the quality of the training of this field students in institutions of higher education (Carnero & Bunting, 2010). Based on this idea, the project proposal was to develop a product of VR to consider the contents of the "Evaluation of Tourist Resources I" subject. This has moreover allowed us to test the potential and educational scope of this technology.

The VR prototype "Virtual Tour of Clavijero Palace"

Derived from the need in the teaching of the "Evaluation of Tourist Resources I" subject in the career of Tourism at the Technological Institute of Morelia, emerged the proposal to develop an educational resource that would enable students to understand and evaluate tourism resources more efficiently, based on the characteristics of the captive tourism that visit Morelia, through a collaborative work with the Technological University of Morelia.

As a result of this collaborative work, the prototype called "Virtual Tour of Clavijero Palace" emerged; its goal was to provide students with a tool generated in which, they could understand and classify the characteristics of this tourist attraction of the city through their Visual, Auditory, Reading and Kinesthetic (VARK) learning skills, by linking theoretical concepts applied to the preparation of the inventory of attractions file (which they have to design), in order to acquire the knowledge outlined in the objective of the subject. The modeled scenario is this historical monument of the city of Morelia; it is a historic Baroque-style building, dating from the seventeenth century; originally home of the Jesuit College of San Francisco Javier until 1767. It was remodeled in 1970 (Conaculta, 2014).

The VR system developed consists of a group of 3D models built in 3D Maya, and integrated into the Unreal software for the journey of the place, and where the mentioned building is presented. You can see buildings nearby, the access area, the primary and secondary court-

yard, the art exhibition in halls, the stairways with murals of Adolfo Mexiac, and also the green areas of the building second floor. You can appreciate the particular forms of this style: arches, columns and domes. The construction materials modeled were quarry and flattened texture, among others.

(Image 1)

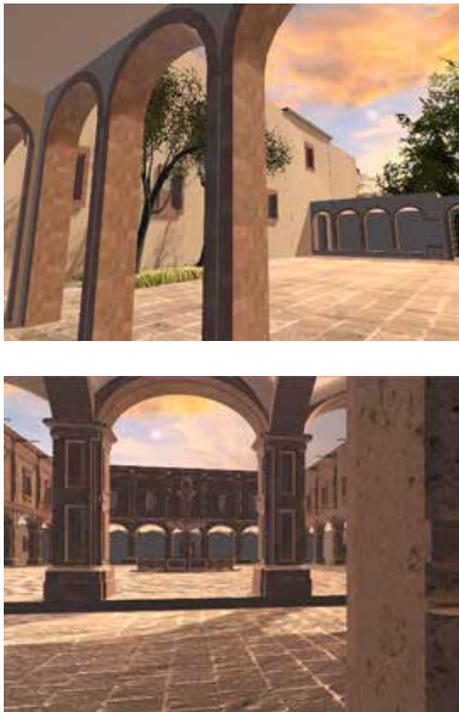


Image 1. Virtual tour of Clavijero Palace in Morelia, Michoacán, México.

Through these devices the user can navigate and move freely within the historic building, visit all areas, know the relevant information and data, such as tourist attraction features, infrastructure, tourist facilities and superstructure through textual and audible information that complement the visual product information, which should be interpreted and analyzed by the student that completes the inventory of attractions file through the evaluation form of tourist attractions.

METHODOLOGY

The project “Virtual Tour of the Clavijero Palace” consisted of a quasi experiment, that used a quantitative research design in which survey and data processing supported by the software prototype, were made with VR.

The aim was to test the hypothesis which considers that the use of VR favors the process of filling the evaluation form of tourist attractions by students of the “Evaluation of Tourist Resources I” subject.

The temporary delimitation was within the period January - June 2015. The student population selected for the study consisted of a nonrandom sample of 26 students that approved the subject mentioned in the Career of tourism. The dependent variable of the study was the use of a VR prototype and the independent one was the process of filling the evaluation form of a tourist resource.

We consider the indicators quoted by Boullón (2006) to

evaluate tourist attractions, they identify the aspects to consider in the filling of the evaluation form of a tourist attraction. The rubrics used in the test were the checklist and the evaluation, and the evaluation indicators were tourist attraction, tourist plant, infrastructure and superstructure.

RESULTS

Chart 1 shows that most students, i.e. 85% were able to record, classify and describe correctly the information requested in the items of excellent and good. However, the remaining 15% showed deficiencies in these areas, mainly due to qualitative factors. Derived from the interview and observation during the test, we found a lack of concentration due to the novelty of the product and to the lack of pauses to record the information needed, as a result, the students were not able to remember all the details seen in the journey.

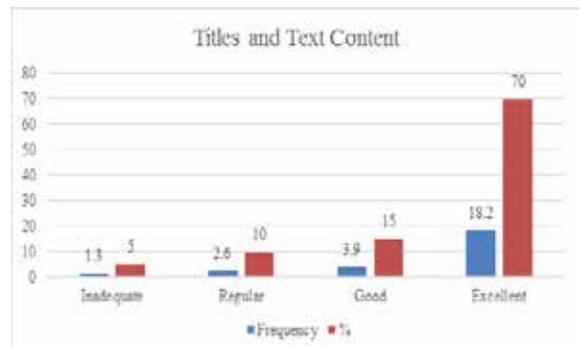


Chart 1. Titles and Text Content.

Chart 2 shows that 85% of the students distributed all indicators of the tab correctly. While the remaining 15%, showed deficiency in these areas, due to the lack of theoretical knowledge of the components of the tourist attraction indicators, it is noteworthy that this prototype does not impact significantly on the assessment of this aspect.

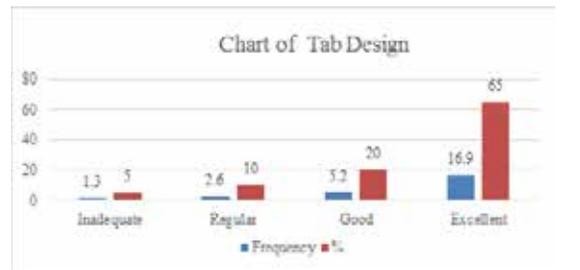


Chart 2. Tab design.

In chart 3, we see that 90% of students, filled with clear, consistent and representative images of the tourist attraction the tab design file, because the prototype helped students to generate mental graphical representations which supports them in the use of image search. While 10% showed deficiency in this aspect, due to the lack of concentration attributed to the novelty of the product.

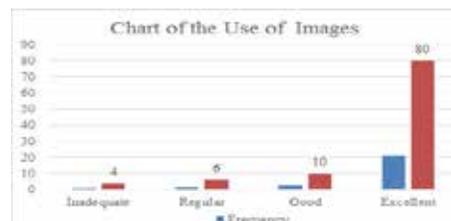


Chart 3. Use of Images.

CONCLUSIONS

Based on the results of the study case on the implementation of the prototype "Virtual Tour of Clavijero Palace", with the students of the "Evaluation of Tourist Resources I" subject as a population sample, we considered that it is a favorable teaching resource, as it is able to fulfill students interest, immersed in a virtual environment that goes from the initial shock, to the aim to discover in detail the objects displayed.

To show students scenarios immersion of different places they already know (a cultural World Heritage site) draws their interest, we also believe that it will appeals their attention to unfamiliar places, because it proposes great diversity of scenarios. We can say that most students were in favor of its use as an innovative educational resource for learning.

We believe that the prototype favors the fact that the student does not have to displace to other places and also favors the evaluation of the tourist attractive and the generation of the inventory in a more easily way of those natural attractions that are temporary, furthermore virtual environments show more detail the characteristics of resources, which can be seen as often as they need it, which favors the collection of the information described.

Before the use of the prototype, it is recommended that the student could be prepared with the background needed to design the record, the correct use of syntax and spelling to describe the attractions as well as the methodology used for the classification. As a prototype of VR, is recommended that short breaks are taken for the student to record the information required in filling the tab.

As research group, we will continue to develop future new immersive virtual reality resources on other tourism scenarios from our country, encouraged by the results.

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