Chapter 15
The Educational Value of the Escape Room in Virtual Environments

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ABSTRACT

This chapter will report the experiences and skills gained during the "Escape Room at Edu3D" project developed within the Craft World virtual world, by the Edu3D open source learning community, which has long been dedicated to teaching innovation in the environment virtual, thanks to the collaboration of experts, technicians, and volunteer teachers passionate about digital architecture. The developed project has led to a review of the escape rooms, which we are normally used to associating with role-playing games in which competitors are locked in themed rooms and must try to go out collecting clues and solving puzzles, puzzles, codes, and riddles, giving them a teaching key.

INTRODUCTION

This chapter will show the experiences and skills gained during the "Escape Room at Edu3D" project developed within the virtual world of Craft World,open source by the Edu3D learning community.

Edu3d (*Edu3D site*) was founded by Giliola Giurgola and Claudio Pacchiega with the aim of creating activities and learning tools in virtual worlds to improve the ability to collaborate and make available tools directly accessible to many people. Edu3D organizes digital laboratories where users can build experiences with innovative methods and new learning scenarios together. Online training lessons are managed thanks to open source content designed for collaborative learning. The target audience includes teachers and students of the Italian primary and secondary school (8/14 years).

The objectives of the educational project carried out at Edu3D are:

- enable and facilitate the use of virtual worlds for teachers and students aimed at achieving a sufficient level of knowledge useful for the definition of educational learning paths and the creation of educational contents;
- create an immersive 3D cultural environment for remote learning with online tutoring and coaching useful for increasing the quality of the student's curriculum, an active didactic-learning challenge;
- create a community of practice in a multi-user 3D virtual environment, organize workshops, manage interactive activities, as well as tutorials, simulations, role-playing, learning objects, online lessons, exhibition spaces and theater sets.
- overcome the playful dimension of 3D worlds with collaborative learning projects and spaces dedicated to educational research.

The training activities organized at Edu3D count on the support of a group of tutors, teachers and experts in virtual worlds, who collaborate on a voluntary basis in the growth of the educational community. Currently Edu3D offers courses partly related to virtual worlds, (basic courses for beginners aimed at learning the basic skills to be able to start realizing their experiences, 3D modeling courses with Blender (*Edu3d blender*) at different levels of difficulty) and partly dedicated to virtual environments new generation, which can be explored through augmented reality viewers (among these, great attention was paid to the Mozilla Hubs environment, which is easy to use and accessible).

Updates on courses and projects organized at Edu3D are always available on the site http://edu3d. pages.it/ .

During the courses, Edu3D, over the years has developed several projects in virtual worlds aimed at schools of all levels. Among these the most significant were:

- treasure island (*Giurgola G., 2013*): the project is aimed at secondary schools and was implemented as part of the iTec project. The project was based on the three-dimensional reconstruction of the island of Gallinara in which various stages of a treasure hunt with mathematical tests were set. As part of the project, the experts were joined by the students who helped in the creation of the environment and, subsequently, made use of the digital space. The training objectives that we wanted to achieve were to put in particular the knowledge acquired during the course of study in a less rigid environment, and to encourage the collaborative aspect among the students who were called to test the environment in small groups.
- Piccolo Principe project and Dante project: both projects are aimed at first grade primary school students, in particular the Dante project can be extended to schools of all levels. For both projects we started from the study of the reference texts in order to recreate the typical settings and the characters present. The students carried out theatrical experiences within the environments, impersonating the characters of the two works. These projects, although different in the topics covered and in the complexity of the environments created, have in common the idea of being able to use virtual environments as places where it is possible to carry out inclusive activities at low costs and of considerable visual impact.

Between 2019-2020, Edu3D promoted and implemented the "Escape Room at Edu3D" project, managing to involve 21 teachers, from schools of all levels, who proposed and created 12 Escape rooms with educational content.

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