Albacraft: 140 students bring the ancient city of Alba Helviorum back to life in Minecraft Education

Eight classes from the Ardèche department in France have successfully completed an ambitious project to rebuild this Roman city in the Ardèche using Minecraft Education. It took them months of enthusiastic work under the watchful eye of their teachers, the MuséAI museum and archeological site, the Canopé network and the Ardèche departmental educational services.

Thomas Pagotto certainly never imagined that he would one day become the manager of an archeological site in a computer game! There was nothing in the background of this former politician, who graduated from Sciences Po before becoming a technical advisor in the Paris region and then a teacher about 10 years ago, that predestined him for such a task.

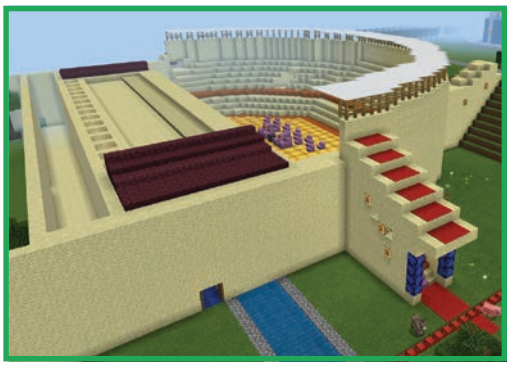
As is often the case, it was a matter of destiny. "I discovered Alba Helviorum when I moved to the Ardèche," explains the teacher. "The departmental museum opened just one week after I arrived. I contacted the team and worked on a number of projects with them, in particular a book that my students wrote two years ago, where you are the hero. I started wondering what else we could do, then I had the idea of rebuilding the ancient city in Minecraft." What led Thomas to think of a computer game? "I had already known about Minecraft for some time, but I only discovered its potential as a teaching tool when the Education edition was released. This version contains all the tools necessary for students to work closely together under the supervision of their teacher. It was when I discovered this new edition that I started thinking about what we could do with Alba," he continues.

Thomas quickly developed his project. For him, collaboration is one of the essential components. "I could easily have done it on my own, with only my class. It would have been much quicker and easier, but I really wanted to involve some other teachers from the region. I firmly believe that we will only succeed in rising to the challenge of the digital revolution, that is to say turning our students into participants in and critics of digital technology, by starting with teachers! Together, we have an essential role to play in halting social reproduction."

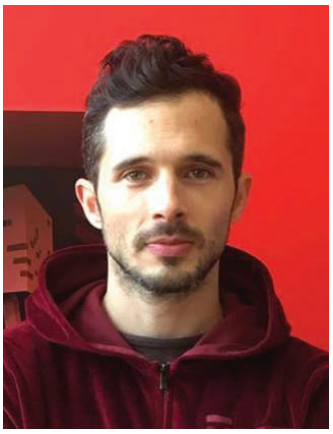
Thomas persuaded eight colleagues to join him in the adventure. Seven of them teach in primary schools and one is a sixth-grade history and geography teacher. "One of the primary school classes eventually dropped out, so in the end the project involved eight classes in five schools, or a total of about 140 students," says Thomas. "And two of the eight classes were for children with special needs."

A region-wide co-educational project

The first step for Thomas consisted of finding some partners. "I did not want a project with the State education system stamped exclusively all over it, especially since the local educational department wants to develop the notion of co-education," explains the teacher. "In my opinion, it was essential to involve the Alba-la-Romaine museum, which helped us by providing the archeological materials and introducing us to experts throughout the reconstruction process. The regional Canopé network also helped us by organizing training sessions for the teachers, lending us two or three touch-screen tablets per class and administering a Minecraft Education server dedicated to the project so that the classes could all work together at the same time. The Ardèche-Rhône-Coiron district authority paid for the transport when the students visited the museum, and we were even able to set up an association for



Using 1:1500 scale drawings provided by the museum, the students started by building 1:200 (see inset) scale Lego models before transposing them into the game as full-scale models.



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popularizing science in Rochemaure for the occasion. The association worked on building the forum that was intended for the class that dropped out. A music teacher from the departmental school and some parents helped my class create the project's opening credits, with some Lego models that emerge from the ground like in Games of Thrones. It was a genuinely communal project!" he enthuses.

Once everything was ready, the actual work could begin. The classes shared out the buildings to be recreated. Thomas' class chose the theater, the jewel in the crown, but also the most difficult to model. "It was an opportunity to address numerous concepts," Thomas notes. "For example, for the theater, we had to learn how to build an arc of a circle with cubic parts. We worked a lot on the concepts of scale, proportionality and fractions, and of course on history and French through writing texts for the non-player characters that the audience would meet in the virtual world."

A simple method was chosen to address these concepts. Using 1:1500 scale drawings provided by the museum, the students started by building 1:200 scale Lego models before transposing them into the game as full-scale models. "Discovering the concepts of scale and proportionality while playing as part of a real project intended for a real audience enabled the students to learn them easily and enthusiastically," adds Thomas.

And enthusiasm is the key word here. The children who already knew all about Minecraft helped the others. They learned how to work together, class by class, but also between distant classes. The two classes for children with special needs made a particularly good contribution, a source of great satisfaction for Thomas. "As is often the case, the main problem was distributing the tasks. Everyone wanted to do everything!" says the teacher with a smile.

Thomas also took the time to explain the educational aspects of the project to the parents. He explained to those parents who viewed the introduction of a video game into the classroom with some skepticism that it only represented a few hours a week at the end of the creative process, and that most of the documentary research and the work would take place in normal classes and at the museum. They all came on board.

Virtual tour and 3D printing

The project reached its climax in June 2018, with the presentation at the MuséAI in the form of workshops run by the students and a virtual tour narrated live by the children, in the presence of local elected representatives and leading figures. "We even used Minecraft's model export feature to print out a few buildings in 3D!" exclaims Thomas. It was a moment of great satisfaction and pride for Thomas and all the participants, and the museum even broke its record for the number of visitors!

Since then, the departmental museum has been showing a film consisting of the opening credits and a narrated virtual tour that juxtaposes the actual remains with their reconstitution in the game. ""I know that classes have already recreated their school, their neighborhood or historical buildings, but I am not aware of any other projects that can be visited by real visitors, developed in partnership with a cultural organization," says Thomas with obvious pleasure.

And our teacher does not intend to stop there. He is going to spend a year teaching in the United States at Fox Hollow Elementary School in West Jordan, Utah. "This school is near the largest open-pit mine in the world. And there is also the emblematic Mormon Temple in Salt Lake City that is closely tied to the history of the pioneers in Utah. It would be a real challenge to rebuild these structures in Minecraft!" declares the teacher.

To make this dream come true, Thomas will always be able to count on the Microsoft Education community. His Albacraft project earned him a Microsoft Innovative Educator (MIE) Expert certification and a Global Minecraft Mentor certification. These awards provide him access to resources and expertise that will prove to be very valuable ■

Design and production: