Crystal Palace Project and Chantry High School Evaluation Report

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Introduction:

The evaluation questions were organised into two categories. Firstly, Technology, e.g. do students like the technology? Is it easy to use? What support is required to run it? Can it be used in schools? Secondly, Educational: e.g. are the learning activities appropriate? To what type of activities do students best respond? Is characterisation an effective mechanism for student engagement?

The methods used included: logging and reflecting on our own experiences; observing the students’ reactions and behaviours both in-class and in-world; semi-structured student focus group session at the end of the last lesson; informal interview with the class teacher after the last lesson.

Session Notes:

The project ran over the course of the half term before the Easter break in 9TMY’s scheduled History lessons, which amounted to 10 hours’ classroom time spread over 6 sessions. On one occasion Tommy and some of his students also logged in to Open Sim to test it outside of class time.

Session 1: Designed to introduce the project and the Crystal Palace as well as induct students to the virtual world technology. Nic was in Ipswich with Tommy whilst Shelley joined the class remotely through Open Sim (as Gwendoline) and a Skype connection to the presenter’s laptop, which in turn was connected to microphone, data projector and loud speakers. Students were paired and randomly assigned a single avatar to use throughout the series of 6 lessons. Session activities included an induction activity, presentation from Tommy, walk down a physical timeline to 1854 and a Q and A session with Gwendoline, who assumed the role of a Victorian guide to the Crystal Palace.

Outcomes: The timeline concept appeared to be effective and the Q and A session worked better than expected. Students appeared to suspend their disbelief to engage with Gwendoline as a Victorian and enthusiastically asked an impressive range of questions. It was helpful that the presenter’s laptop had a microphone attached that was good enough for Gwendoline to hear the students’ questions clearly. It was disappointing that system performance unexpectedly dropped dramatically after just 5 or 6 (out of 15) avatars logged in. It was necessary to divide the group so that half logged in whilst the others thought of questions for the Q and A activity. They then swapped over. Overall the session was delivered more or less as planned and seemed to go well. Students learned the controls quickly and were easily able to follow and master Nic’s induction activities.
Session 2: Designed to get students to consider the exhibition and education techniques used in the Crystal Palace and what visitors may have thought about it as well as to reflect on how history might mean different things to different audiences. Activities included an in-class discussion about student’s previous visits to museums, exploration of the virtual Pompeii Court with the aid of a hard copy of the original guidebook and talking to Victorian bots characters to find out their reactions to the Palace. Both Nic and Shelley were in Bristol and connected via Open Sim and Skype whilst Tommy led the lesson at Chantry.

-Outcomes: The blended approach appeared to work well. The lesson start was delayed because a different location was used this time at which laptops and Skype took longer than expected to set up. Unfortunately the microphone was not set up so it was difficult for Shelley and Nic to hear what was happening in the classroom. There were also technical difficulties that prevented all 15 pairs/avatars logging in simultaneously. Tommy therefore got a smaller number of pairs to log in at a time to explore the model which enabled everyone to get a sense for the space and insight as to what Victorians thought about it.

Session 3: Designed to enable students to compare a Pompeian and modern day house, explore the roles of different members of the Pompeian household and to empathise with varied experiences of members of different status (slaves, women, children, master etc.) Activities included exploring the house to learn about functions of different rooms and talking to different household members (bots) to learn about their roles. The same set up as lesson two was implemented and Nic and Shelley observed the class remotely.

-Outcomes: Due to disruption of session 2, this class was aimed at giving students a chance to meet the Crystal Palace characters before moving on to travel back to Pompeii. Classes were arranged so that half the class were in Open Sim at any one time so as to get over problems with overload. Reaction Grid had offered lots of advice about how to set the machines and settings to minimise load. However, by accident the laptops which the IT support staff set up for the session were not the ones with Open Sim installed. Despite their efforts, the laptops could not be configured in time to run the lesson properly. Fortunately, Powerpoint presentations were provided independent of Open Sim so that they could be used in classroom in case of technical breakdown. The next morning Tommy arranged for students, who had understandably become frustrated with the apparent technical difficulties, to log into Open Sim. This worked well towards restoring students’ faith in the technology.

Session 4: Due to disruption last week, we delivered lesson 3. Nic and Shelley connected via Skype and Open Sim to classroom whilst Tommy led the class.

-Outcomes: The class went much more smoothly. Some technical issues did develop later in the session but the students were able to visit the house (in groups) in its Roman guise, meet the members and discuss its layout etc.

Session 5: As we were a week behind we delivered lesson 4. Designed to enable students to experience daily life through the eyes of different characters in order to appreciate how status or gender might affect experiences and to explore what this tells us about Roman society. The main activity was an ‘Apprentice’ style challenge to prepare for a successful Roman dinner party, which
students undertook in three groups. The challenge was set by the Paterfamilias, Gaius Sallustius, who was role-played by Nic. Tommy led the session, adding up points at the end. Gaius announced the winning and losing team and the consequences. Both Nic and Shelley were based in Bristol.

Outcomes: This session went well although the students did not get the full experience since only a few were allowed to use the computers at a time. However, this did prevent overloading – Open Sim ran well and Tommy was able to teach the class all the day’s objectives. The students engaged with the challenge and all made sensible choices. There was clearly active teamwork and the students responded very well to the game-based nature of the activity.

Session6: As we were a week behind we delivered lesson 5, which was designed to help students learn about the eruption of Vesuvius through ‘experiencing’ the disaster and empathising with disaster victims. As this was the final session, students were also encouraged to reflect on their own experiences of this course and to consider how effectively they felt they had learned and what elements had been most useful or distracting. Shelley and Nic were in the classroom and led the session. Open Sim not used. Instead Shelley and Nic presented an animation (filmed in Open Sim) of the characters experiencing the eruption and asked students to decide what they should do on behalf of their avatar characters at key stages in the narrative. Afterwards we collected verbal feedback on the project.

Outcome: This was a very successful class. The students were clearly very engaged and showed that they had understood the content of the project, had enjoyed the activities and found the environment and learning activities motivating.

Findings:

Technology

1. The School laptops used in the lesson were of a specification we’d expect to find in any secondary school, i.e. mid-range with no dedicated graphics acceleration hardware. Nonetheless, once settings within Hippo, the client software, were adjusted they managed to run the Open Sim environment at a level of detail sufficient to support various learning activities. An unexpected issue was that bots did not always render properly (only a small number of body parts appeared). This issue turned out to be a combination of the Hippo software and the laptop specification. Tests revealed that an alternative product called Meerkat worked much better. We will be using this software for similar situations in the future.

2. A major undertaking of this project was to migrate the virtual model and bots from Second Life to Open Sim, a similar platform but better suited for use in schools and easier to sustain longer term. The migration was successful; Open Sim met our expectations in almost all areas and exceeded them in a few. However, a specific function that enables bot characters to walk about the environment was found to be missing. In Open Sim our bots stand still but can comminute with real users as they did in Second Life. We are currently engaged in dialogue with Open Sim developers who are working to resolve the issue.

3. There were other technical difficulties that occurred intermittently but were extremely disruptive. These were related to inadequate network bandwidth. The School’s network will undergo a major upgrade sometime next year and in anticipation of the current one being too slow, a dedicated 8mb
broadband connection was established for the project. Unfortunately, this also proved inadequate for the number of simultaneous logins we tried to achieve. The issue appears to have been exacerbated by the Open Sim server being slightly under-powered and located in the US. Increasing the server RAM for lesson 5 did result in a small but noticeable improvement in server performance. To avoid these technical issues recurring in the next phase of pilots we are purchasing our own high specification server to run Open Sim in the UK. We may be able to loan a server temporarily to participating schools to run on their own network if necessary.

4. Configuring School computers to run Open Sim is relatively straightforward but we underestimated the time it takes to set up laptops, the temporary network and skype connection in a classroom. Often the equipment was still being set up at lesson time so there was an initial delay getting started and no chance to sort out last minute logging-on glitches. In future, we need to be more proactive in ascertaining the scale of school IT support when discussing logistics. We also need to make sure that the system can run easily without straining the stretched support team. Our plan is to develop a full and clear advice sheet and to run through a number of standard tests before the project begins in any school.

Education

4. The students responded well to the environment and, although frustrated by technical set up and network issues, said they found the system very easy to use.

5. The virtual environment and learning activities appear to have successfully engaged students as intended. Students were very positive in the final session and a number of boys who offered a number of useful suggestions were recognised as boys who often lack engagement with history. A small number of the girls, however, had been put off by technical problems and this had affected their willingness to engage with the project.

6. Students seemed to enjoy different ways of communicating – particularly the opportunity to interview Gwendoline directly via the skype connection. The variety of activities seemed to work and the lesson plans seemed pretty well paced. The group Apprentice-style challenge seemed to have worked very well, with all groups working together to complete the challenge. The saving over of consequences also worked (for example, decisions made in session 5 affected chances of survival in session 6).

7. Because of the technical issues, students didn’t get to be as involved with their avatars as we would have liked. Nevertheless, they did react very strongly to characterisation and the way their avatars were treated in the world – the students given working-class or slave avatars were very indignant about the rudeness they suffered from our aristocratic bots! This certainly seemed to prompt them to consider status difference and different perspectives on historical events. Some students were observed to role play – talking ‘Victorian’ in their messaging. The students appeared to have no problem with being allocated an avatar of different gender to themselves.

8 Students are, of course, always excited to try novel things in class and can feel liberated by the freedoms offered by the virtual environment. This is one of the strengths of the virtual world and a major part of its attraction for teaching and learning. However, we did realise that it would be
desirable in future to lay out clear ground rules of expected behaviour in world, so that students have a guideline of expectations just as they would in the classroom. Disengaging the flying mode was a good tactic.

9. Because not everybody was in world at the same time, Tommy was forced to manage both environments simultaneously. This is very difficult and could potentially lead to stressed teacher and badly-behaved or bored students. We should ensure on set up that an avatar is logged into a computer shown on a main screen so that even if not all students are in world, everybody, including the teacher can see what’s going on. Also, the teacher needs to be logged on so that students in world looking at their own screens are aware of his/her presence and so that teacher can share some of their experiences.

Conclusion
Overall we see the project as a success. There were some unexpected and disruptive technical difficulties, particularly during earlier lessons. However, this is why we run pilots. Many of the problems have already been resolved and others are expected to be resolved soon.

We have achieved our objective to design and pilot a series of lessons which use a range of innovative activities to achieve appropriate learning objectives for Key Stage 3 History. The students clearly responded well to these. They appear to have seen through the technical difficulties and said that they found the use of virtual world technology and our blended learning approaches a refreshing, engaging and interesting way to learn of which they would like more experience.

We are convinced that our innovations have significant potential to enhance students’ experiences learning about History and intend to develop them further. We have identified specific approaches that work particularly well, such as games-based tasks, characterisation and exposure to subject experts through role play. Our task now is to capitalise on these strengths to produce an educationally effective and attractive package that is scalable and sustainable.