Learning languages in 3D worlds with Machinima

Christel Schneider[1]

Abstract. This paper, based on the findings of the EU funded CAMELOT project (2013-2015), explores the added value of Machinima (videos produced in 3D virtual environments) in language learning. The project research evaluated all stages, from developing to field testing Machinima. To achieve the best outcome, mixed methods were used for the research, including quantitative and qualitative techniques of data collection, such as questionnaires, interviews and focus group discussions. The data were provided by teachers and learners using Machinima in their classroom, as well as by learners participating in web based language courses of which all results were well documented in the form of case studies.

Keywords: language learning with Machinima, 3D virtual environments, video production.

1. Introduction

Considering that more and more videos are utilised for educational purposes to enhance users' learning experiences, the EU-funded project '**C**re**A**ting **Machinima** to **E**mpower **L**ive **O**nline Language **T**eaching and Learning' (CAMELOT[2]) assesses the design and usability of video captures, which are film recordings of 3D virtual experiences (Machinima). Based on the CAMELOT project (2013-2015) which aims to promote learning in 3D virtual worlds and trigger interest in teaching and learning in these immersive environments, my study investigated two Machinima Open Online Training courses (MOOT) designed for language educators to learn how to create videos (Machinima). The term Machinima is a neologism, derived from merging the words '**machin**e + cin**ema**', first used in the late 1990s (Marino, 2004). In the context of language learning, Machinima are closely related to independent filmmaking as they follow a similar process, which includes design, storyboarding,

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filming and editing. The study results indicate that learners involved in the creation of Machinima gain a better understanding of the impact immersion in 3D virtual worlds has on the learning process and learning outcomes.

2. Method

For the research, a mixed method approach was chosen, composing several case studies triangulating participating observation with qualitative and quantitative data. This appeared to be particularly useful in cases where questions could not be answered by one method alone (Creswell, 2014). Core areas of the study were carried out in the form of participating observation during the MOOT courses, including synchronous training sessions in Second Life® (SL) and in Adobe Connect™, as well as asynchronous session observations on Moodle. The sessions on Moodle prepared the learners to create their own Machinima with a specific focus on grammar, a narrative, or instructions for the level and language required in the physical or virtual language classroom. The activities on Moodle included discussions, feedback, self-assessment and surveys. The skill practice for creating and editing Machinima took place in SL and Adobe Connect™. Additionally, expert interviews with Machinimatographers and teachers using Machinima with their learners were conducted via Skype or in SL. For the field testing research, a series of Machinima of different styles, formats, language levels and languages, created for the CAMELOT project, were piloted at the University of Istanbul, the National Defence University in Warsaw, the University of West Bohemia, a Secondary Content and Language Integrated Learning School in the Netherlands and by LinguaTV, a video based online language course provider. Of all the courses piloted, 726 learners from higher education, adult education, secondary education, primary schools and one class of students with special needs in a secondary school responded to the survey. The field testing research was based on focus group discussion reports using guided questions, teachers' reports, and questionnaires completed by teachers and students (CAMELOT, 2015).

3. Discussion

3.1. Creating Machinima – benefits and challenges

During the two facilitated MOOT courses, enough space was provided for developing social presence, essential for successful collaboration and group activities, such

as creating a storyline or exploring different roles and outfits of avatars. It was observed how the activities in SL encouraged interaction and bonding and thus increased mutual support and motivation among the participants, which resulted in a high attendance level and course completion (Wheeler, 2005). Apart from the technical skill set needed to create Machinima, the MOOT courses provided space for discussing challenges and advantages of learning in 3D environments. Some of the benefits discussed were that the learners were not just consumers of content, but became actively involved in the production process (Corrigan, 2014). Further shared advantages were that learners perceived as shy in the physical classroom opened up and became more confident when performing in the virtual environment (De Jong Derrington, 2013).

3.1.1. Time and effort

Experts and practitioners had very opposing experiences in regards to the time needed for creating Machinima. Hancock and Ingram (2007) state that creating Machinima is much faster than shooting real life films, whereas Morozov (2008) argues that the whole process of Machinima production can be quite challenging as it requires a complex set of skills. The actual time spent on the creation of Machinima on the MOOT varied quite a bit, depending on people's skills, technical barriers, personal commitments and goals (Schneider, 2016).

3.1.2. Quality of Machinima

The quality of Machinima was discussed in regards to the expected outcomes of Machinima productions and the way they were perceived by users. None of the Machinima created during the MOOT could be expected to be highly professional. However, teachers accepted their self-created Machinima more easily if they conveyed the learning content in a suitable way (Schneider, 2016). Their learners did not care about the quality of Machinima as long as the content triggered their interest, and the fact that their teacher had created them was especially appreciated. Yet, the evaluation of field testing surveys showed that some Machinima were considered to be of poor quality, because of the lack of non-verbal expressions and the unnatural looks and movements of avatars.

The findings imply that the quality of Machinima is often determined by the user (Schneider, 2016). Discussions with practitioners revealed that regardless of imperfections, quality is secondary as long as the Machinima are relevant, include a fun element and are used as a learning tool, involving learners in the production process. Nonetheless, other examples showed that the quality of

Machinima did matter when using other people's video productions. Teachers and learners unfamiliar with virtual environments or 3D games tended to critique ready-made Machinima because they could not identify with the avatars or even rejected them. Perceptions of avatar aesthetics and the lack of seriousness also had an effect on some learners in their engagement with ready-made Machinima (Schneider, 2016). The following excerpts from the CAMELOT MOOT course 2015 demonstrate the different stages of Machinima productions and skill sets: https://youtu.be/GopJmoH3-s4.

3.1.3. Learners' involvement

Various language facilitators who were interviewed about teaching in 3D virtual worlds all shared the experience that engaging learners in the process of making Machinima is significantly more important than the actual Machinima. Some were even convinced that their students learn better and even faster by being involved in the production process. Considering that active involvement in Machinima production is essential for successful language learning, the value of including learners in the reflection and feedback discussion appears even more important. Machinima recordings allow learners to review their interactions by reflecting on their performance, and make improvements by re-shooting the scenes they are not satisfied with. Watching the recordings of their activities in a role-play, for example, helps learners to review and analyse their performance and develop an awareness of the language used.

3.2. Field testing Machinima

The Machinima piloted were ready-made, including teaching guides and materials. As the focus group discussions revealed, people's opinion about advantages and disadvantages of ready-made Machinima were quite different. Some teachers benefitted from ready-made Machinima as it saved them preparation time, whereas others criticised that the language level did not suit their students' needs. The option of creating their own Machinima was considered too demanding in regards to the required skills, equipment and lack of institutional support. It was agreed that ready-made Machinima that focused precisely on what was needed in the lesson were most efficient.

It is remarkable that of the 726 students piloting ready-made Machinima in their lessons, 75% felt comfortable about the learning experience, though the majority preferred traditional videos (CAMELOT, 2015). Issues addressed by the learners were the missing facial expressions and gestures of avatars and their artificial

appearance. In some cases, poor sound quality and bad graphics added to the critical assessment (Schneider, 2016, p. 41). Regardless of all critical comments, most piloting teachers reported that their learners felt inspired and attracted by the novelty of using Machinima in the classroom on top of learning something new; they also had fun and enjoyed the lesson. Younger students did not seem to have problems with the avatars or environment as they were used to virtual characters from computer games (Jauregi et al., 2011).

4. Conclusions

It can be determined that the most effective and rewarding Machinima were the ones that involved the learners in the production process, which none of the students experienced as a 'waste of time'. It is essential for the learning process to immerse in 3D virtual environments to understand the benefits of this kind of learning. Positive experiences through active participation, interaction, mutual support and community building have proven to have a great impact on teaching and learning with Machinima.

As far as the study revealed, it could not be foreseen whether a particular Machinima appealed to a specific group of students or not and whether learners achieved more than they would have done without the use of Machinima. To find out more about the influence of Machinima on language learning, additional and long term research would be necessary to examine which genre of Machinima appeals to different types of learners.

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