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Proposition of an Edutainment Scenario for Second Language Purposes: Towards a Relevant Learning System

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Abstract

Our article focuses on the design, development and experimentation of an edutainment scenario as a learning system for a second language. Our objective is to propose and evaluate the relevance of such an edutainment scenario for the learning of Spanish. To design it, we focused our interest on the potential of the serious game. The use of video games for language learning has been the subject of several research cases and the positive impact of video game-based language learning (DGBLL) tools has been reported in terms of improving learners' listening skills. In addition, it has been shown that certain criteria are important in the design of a serious game, especially what aims at an optimal experience. We therefore designed and developed an edutainment scenario that integrates a serious game within a school sequence of five sessions, three sessions with traditional authentic documents preparing learners for the video game session, all in a classroom setting. We consider the time spent using the serious game as a complementary stage of the language performance. To evaluate the relevance of such an edutainment scenario, we adopted an interactionist approach to foreign language learning, namely computer-assisted language learning (CALL). Based on the results, we found that our scenario has a slight potential in more than one area. However, we remain cautious about authenticity and focus on meaning.

Keywords: *Language learning, edutainment scenario, CALL, DGBLL.*

1. Introduction and background

Technological advances have changed learners' learning behaviors and reshaped teaching methods [1]. This issue has transformed the experience of learning processes in foreign language teaching. As a result, language didactics, computer science and linguistics are joining forces to provide learners with operational solutions with new systems. These systems are able to offer a didactic added value compared to conventional systems [2]. They could also integrate the potential of serious games [3] in order to offer a solution to the learners' needs. Thus, this problematic is at the crossroads of video game-based language learning (DGBLL), computer-assisted language learning (CALL), the task-based approach (TBLL) and the action-based approach (AoA). Thus, our objective has been to design and evaluate the relevance of a system composed by an edutainment scenario for the learning of Spanish as a foreign language (L2). This one is related to the content of the high school curriculum. Therefore, we have designed, developed and tested an edutainment scenario that integrates a serious game within a learning sequence. The use of video games for language learning has been the subject of several research studies; [4], [5]. The positive impact of DGBLL tools has been reported in relation to improving learners' listening and writing skills [6]. Based on the available literature, there seems to be a scientific consensus that a game alone is not conducive to learning if it is not accompanied by instructional measures [7]. We also know that well-designed games are able to motivate and engage players by presenting them with compelling narratives and communicative complexity beyond what many traditional learning activities are capable of achieving [8]. Thus, the logic of designing a serious game leads us to start from the learning objectives on which we will graft a gameplay more or less adapted to the learning needs [9].

2. Context and proposition

Our edutainment scenario was designed to meet the needs of learners of Spanish L2, in the area of oral comprehension. The project was aimed at students of a mixed French public secondary school (students aged 15). The students are between the A1 and A2 levels of the CEFR (Common European Framework of Reference for Languages, 2001). Concerning the subject to be treated, we chose the axis "Saving the planet and thinking about possible futures" of the school program (2018). The teachers work with the AoA. We are interested in the edutainment scenario model conceived as a stage of language performance and restitution of linguistic knowledge [5]. The structure of an edutainment scenario takes into account both; the framework of the interactive story and the

pedagogical planning. Such a scenario is based on a first stage; the preparation sessions that would start outside the serious game and the second stage; the immersion phase with the serious game. We opted for the PLOT (public, playful, objectives and tasks) model of language learning game design [5]. On the one hand, our choice to adopt this model is justified because we consider the time of use of the serious game as a complementarity stage. On the other hand, we have chosen the edutainment scenario in the classroom because the mediation of the teacher is essential. The teacher retains a decisive role because, in a pedagogical aim linked to the curriculum, the game is not an end in itself [10]. We have proposed an edutainment scenario adapted to the needs of learners of Spanish (L2). For this purpose, we defined authentic documents that accompany three class sessions, as well as a session with the serous game, a debriefing session and a final task session.

3. Method and technical structure

Since our work is focused on CALL, we thought to evaluate the relevance and effectiveness of language learning through the analysis of system design and learner engagement in learning tasks [11]. We sought to emphasize the analysis of contextual factors more than the system itself because we have teachers with different methods and heterogeneous students. Also, we wanted to emphasize the analysis of the edutainment scenario and the learner's engagement in the learning tasks. Thus, we used the six criteria: Language learning potential, Meaning focus, Learner fit, Authenticity, Positive impact, Practicality. Then, we defined the units of analysis: teachers of Spanish L2 (3), learners who tested the system (35) and the developer. Thus, it is a multiple-case model, each case is like an experiment [11]. In this study, it is expected that each case will produce similar results. Therefore, we designed surveys and interviews for all the units. We also defined the control group which corresponds to half of each participating class (30). This group did not test the serious game, but the same oral comprehension quiz that is integrated in the serious game. The objective was to compare the results. Simultaneously, a knowledge test was planned to compare the learning potential of the serious game. We proposed an online 3D exploration video game, programmed by Unity (game development platform) for a duration of 50 minutes, in first person perspective (FPP). There is a non-player character (NPC) in order to provide the conditions for a language interaction. In this way, the player performs the correct action, listens and renders the correct text in order to progress in the game. Concerning the structure of the scenario, we have opted for a structure of nested events [12] which allows the subject to choose the area he will explore first and thus the corresponding task. The main mission of the game is to make an inventory of species in a virtual logbook. To do this, the player must explore the terrain and perform actions such as searching for species, taking pictures, freeing the animals and noting the characteristics of the species they are listening to.

4. Setting up

The teachers who volunteered for the experimentation received the authentic documents (text, video, image, serious game). The teachers prepared the sequences (scenarios) with the chosen authentic documents and kept the same chronology of documents in their sequences. Once the three documents were worked on during the three sessions, the teachers proceeded to guide the next session with the serious game. Before starting the experiment, the teachers distributed the vocabulary test to the experiment group and the control group. The test consisted of nine nouns and its description with multiple answer. The experimentation group played the game and completed a quiz in the virtual logbook that is part of the serious game. While the control group had to complete only the online quiz (without the serious game). The teachers guided the session to solve linguistic and technical questions. In other sessions, the teachers redistributed the vocabulary test again. Then, they distributed the game expertise survey. Then, the debriefing session was done and the final project was more or less completed due to different constraints.

5. Results and perspectives

First of all, regarding the language learning potential, we are cautious because in the survey, although a large percentage of the students answered that they had learned vocabulary and cultural elements, a large percentage also added that their Spanish had not improved. This leads us to question the degree of learning potential of the edutainment scenario. However, a large percentage of the students said that the game helped them to practice oral comprehension. This shows that the game could be relevant as a practice moment in the sequence. Moreover, the knowledge test based on multiple response questions revealed that the students in the experimental group retained slightly more words than the control group. With regard to the meaning focus, we found that only half of the students

understood the audio material of the serious game. As far as the adaptation to the learner is concerned, the students found the missions easy to perform and understandable. Regarding practicality, we found that that the teacher's intervention was not necessary, and that the game tasks were easy. However, we did note slightly that the students read the tutorial at the beginning of the game. Regarding authenticity, only half of the class considered that the game helped them to think about the topic of the sequence and, significantly, the students considered that what they saw in the serious game, they will not use outside the school. However, the question was asked only for the serious game and not for the whole sequence. Regarding the positive impact, the students liked the game significantly. However, some students pointed out frustrating gameplay elements that made them feel discouraged. Teachers expressed regret that they did not spend more time to the debriefing and to the final project of the sequence. To conclude, we would like to further analyze the results with the recorded interviews and to flesh out our demonstration with a second iteration that takes into account the first results and corrects the areas for improvement.

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