4 Repurposing virtual reality assets: from health sciences to Italian language learning

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Abstract

This paper reports on the rationale for the implementation of a pilot project using a scenario-based Virtual Reality (VR) resource, originally developed by Health Sciences at Coventry University and now being repurposed for Italian language learning as a collaborative project with Modern Languages and Linguistics at the University of Southampton. The original aim of the resource was to prepare health care students for home visits by allowing them to experience a semi-linear conversation with a virtual Non-player Character (NPC). The authors will discuss how they are planning to repurpose the resource for Italian language learning and teaching and will analyse the potential pedagogical uses within the modern language curriculum, including emotional language, employability skills, and the year abroad.

Keywords: virtual reality, Italian, repurposing, emotional language.

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1. Introduction

Declining applications to study languages at UK universities are driving language educators to seek innovative approaches to recruit and retain today's graduates, as well as supporting them in acquiring the multiple skills needed in the new work market. In the last decades, educators' interest in the area of serious games has increased steadily and several successful pedagogic models for training and professional development have been designed. The concept of serious games was first coined by Clark (1970) to describe "games (which) have an explicit and carefully thought-out educational purpose and are not intended to be played primarily for amusement" (p. 9).

The pedagogic approaches used in serious games include problem-based learning, contextual and experiential learning models (Pappa et al., 2011), and more recently, situative and experiential approaches (Hulme et al., 2009), providing learners with a variety of learning experiences.

Serious games have the potential to improve students' learning experience, increase motivation, and diversify the content delivery media (Michael & Chen, 2005). However, the complexity of their design, costs, and time impact on the production of similar approaches in other disciplines. Many studies have indicated repurposing as a potential way to address these issues and enhance the possibilities to respond to a wider public and areas of application. Serious games' repurposing though, is still in its early stages, especially in the area of language teaching, which is the focus of this paper.

2. Repurposing in education

Repurposing is the practice of changing a learning resource or object initially created for a specific educational context, to a new educational context (or contexts) (Kaldoudi, Dovrolis, Konstantinidis, & Bamidis, 2011, p. 165). This practice seems to be particularly effective in educational settings aimed at using serious games. Protopsaltis, Panzoli, Dunwell, and de Freitas (2010)

have developed a theoretical framework for repurposing serious games, whilst a more practical way to simplify serious games repurposing has been provided by the scenario-based games repurposing (Protopsaltis et al., 2011), on which the methodological framework of this pilot is based.

3. Repurposing for language learning

This paper discusses a pilot project, originated from a VR asset built for health care students aimed at practising home visits to patients in a non-threatening environment using a goggle-based VR headset. Students interacted for 15 minutes with an NPC whose emotional state changed based on the students' responses to the NPC. The initial repurposing consisted in translating and recording the conversation between the NPC and the health care visitor from English to Italian as discussed in Brick et al. (2019).

A second repurposing, discussed in this paper and involving both Coventry and Southampton Universities, aims at creating a pedagogical framework supporting the specific use and context of the repurposed asset into Italian language learning and teaching in HE.

4. Practical and theoretical approaches

The original scenario involved learners selecting from a number of possible responses in order to help the virtual character (Eduardo) with his grievances regarding his father's care package (Brick et al., 2019, p. 5). Although the asset has now been translated into Italian, the scenario is based within the realm of health and life sciences and thus is likely to fall outside of learners' experiences. To overcome this, authors are adopting a two-folded approach using a contextualised framework aimed at supporting students to culturally connect with the scenario as well as facilitating empathy. Authentic resources will be integrated into the curriculum using multimodality to provide a historical, cultural, and emotional understanding of the topic, hence bridging the intercultural gap.

As emotions are expressed differently in different cultures, the ability to recognise the emotional state of people and to express one's own emotions appropriately are essential skills of global graduates. Dewaele (2013) has already established that even proficient target language users can still have persistent feelings of detachment and inauthenticity when dealing with situations where they are not confident about the exact emotional weight of certain words and expressions.

In addition, Pavlenko (2012) argued that first and target languages are embodied differently, hence the difficulty in projecting an accurate representation of our sophisticated thoughts and emotions. Could VR cater for these needs? In a recent study from Bertrand et al. (2018) this question was addressed resulting in the development of a framework which highlights the empathy process and its relationship with learning methods and embodied VR. This pilot is an example of how practitioners are trying to address these needs. The authors anticipate a threefold impact of the pilot: (1) evaluate the effectiveness of this technology in the language classroom; (2) evaluate the impact of VR on emotional L2 language acquisition and interaction; and (3) provide feedback for future repurposing in modern languages.

5. Method

The current pilot is being designed to test the repurposed Italian asset with a group of intermediate L2 undergraduate students of Italian at the University of Southampton. Students will complete pre-activities tasks to familiarise themselves with the topic. They will then interact individually with Eduardo, the NPC, using an Oculus headset, which provides a full-immersion experience when responding to Eduardo's various emotional statuses and avoidance techniques.

Students receive two types of feedback, which will form the basis of our data collection. One, provided after completion of the main scenario, is based on the emotional effect and the impact of student choices on Eduardo, for example, "40% Angry – Some of your choices may have annoyed Eduardo".

The second type of feedback is a reflective replay for students to review their choices through the eyes of Eduardo. As the replay progresses, Eduardo's emotional state is plotted on a chart, allowing the students to see how their choices affected Eduardo emotionally. A cooperative metacognitive task includes comparing individual feedback with peers, reflecting on choices made, as well as analysing language usage.

6. Conclusions

This paper has discussed a pedagogical approach for a potential repurposing of a serious game to explore emotional language by engaging with technology in the classroom. The practice of repurposing is proving useful in disseminating innovative approaches of serious games in language learning. With the new focus on language learners as global citizens, there is an increased need for languages to understand the emotional layers of words and expressions as well as how to react to specific and unpredictable situations. These would be useful skills for students to explore before going on their year abroad or work in a different country, etc.

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