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ESTUDIOS

Collaboration and communication through gamification: an *Animal Farm* RPG for English language learners

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Abstract: This paper aims to propose the introduction of a serious role-playing game (RPG) based on Orwell's *Animal Farm* into the English as a Foreign Language (EFL) classroom for B2 students in a higher education context. The proposed RPG provides an innovative and engaging approach to language learning, combining gameplay and interactive tasks to enhance collaboration and students' willingness to communicate (WTC), while playing in groups through a videoconference. In order to evaluate students' attitudes and collaborative performance, the data collection proposed involves a mixed-method approach: a pre-questionnaire to gather self-reported data on students' WTC and behaviour in the target language; video analysis to track students' contributions and interactions during gameplay; and a peer assessment questionnaire to evaluate teamwork and collaboration. Potential findings suggest that the real-life application of language in team gameplay provides a context for authentic language use, motivating students to communicate in English as they navigate through the game's scenarios and interact with virtual characters, objects and peers. This authentic language use in a controlled and safe environment can improve students' language skills and boost their confidence. However, the proposal faces several limitations, such as software compatibility issues, connectivity problems, monopolization of certain students, and teacher workload.
Keywords: Serious video game; Animal Farm; collaboration; willingness to communicate; EFL.

ES Colaboración y comunicación a través de la gamificación: un RPG de *Rebelión en la granja* para estudiantes de inglés como lengua extranjera

Resumen: Este artículo propone introducir un juego de rol serio (RPG) basado en *Rebelión en la granja* de Orwell en el aula de inglés como lengua extranjera (EFL) para estudiantes de B2 en un contexto de educación superior. El RPG propuesto proporciona un enfoque innovador y atractivo para el aprendizaje de idiomas, combinando la experiencia de juego y las tareas interactivas para mejorar la colaboración y la disposición de los estudiantes a comunicarse (WTC), mientras que estos juegan en grupo a través de una videoconferencia. Con el fin de evaluar las actitudes de los estudiantes y su rendimiento colaborativo, la recopilación de datos propuesta incluye un enfoque de métodos mixtos: un cuestionario previo para recopilar datos autoinformados sobre la WTC de los estudiantes y su comportamiento en la lengua meta; análisis de vídeo para realizar un seguimiento de las contribuciones e interacciones de los estudiantes durante el juego; y un cuestionario de evaluación por pares para evaluar el trabajo en equipo y la colaboración. Los posibles resultados sugieren que la aplicación real de la lengua en el juego en equipo proporciona un contexto para el uso auténtico de la lengua, motivando al estudiantado a comunicarse en inglés mientras navegan por los escenarios del juego e interactúan con personajes virtuales, objetos y compañeros. Este uso auténtico de la lengua en un entorno controlado y seguro puede mejorar las competencias lingüísticas del alumnado y aumentar su confianza. Sin embargo, la propuesta se enfrenta a varias limitaciones, tales como problemas de compatibilidad del software o de conectividad, descompensación en el equipo en la producción oral, así como la carga de trabajo para el profesorado.
Palabras Clave: Videojuego serio; Rebelión en la granja; colaboración; voluntad de comunicación; EFL.

FR Collaboration et communication par le biais de la gamification: un RPG sur *La Ferme des Animaux* pour les apprenants de langue anglaise

Resumé : Cet article propose l'introduction d'un jeu de rôle sérieux (RPG) basé sur *La Ferme des Animaux* d'Orwell, destiné à être utilisé en cours d'anglais comme langue étrangère (EFL) auprès d'étudiants de niveau B2 dans un contexte d'enseignement supérieur. Le jeu de rôle proposé constitue une approche innovante et engageante de l'apprentissage des langues, en combinant des éléments ludiques et des tâches interactives afin de favoriser la collaboration et la volonté de communiquer (WTC) des étudiants. Ceux-ci jouent en groupe à travers une vidéoconférence. Pour évaluer les attitudes des étudiants ainsi que leurs performances en matière de collaboration, la méthodologie retenue reposait sur une approche mixte: un pré-questionnaire visant à recueillir des données autodéclarées sur la volonté de communiquer et les comportements des étudiants dans la langue cible; une analyse vidéo permettant de suivre les contributions et les interactions des étudiants durant le jeu; ainsi qu'un questionnaire d'évaluation par les pairs pour mesurer le travail d'équipe et la qualité de la collaboration. Les résultats attendus suggèrent que l'application concrète de la langue dans un jeu d'équipe offre un contexte propice à une utilisation authentique de la langue, incitant les étudiants à communiquer en anglais tout en progressant à travers les scénarios du jeu et en interagissant avec des personnages virtuels, des objets et leurs camarades. Cette pratique authentique de la langue dans un environnement contrôlé et sécurisé peut renforcer les compétences linguistiques des étudiants et accroître leur confiance en eux. Cependant, la mise en œuvre de cette proposition se heurte à plusieurs limites, notamment des problèmes de compatibilité logicielle, des difficultés de connexion, le risque de monopolisation de la parole par certains étudiants, ainsi que la charge de travail supplémentaire pour les enseignants.
Mots-clés : Jeu vidéo sérieux ; La Ferme des animaux ; collaboration ; volonté de communiquer ; anglais langue étrangère (EFL).

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1. Introduction

Video games can no longer be considered a passing trend in the industry of entertainment, as they have become part and parcel of youngsters' – and of the not-so-young – leisure activities. Video games are not just played but also watched. They have evolved from individual, first-person entertainment to a social experience that fosters relationships and connections (Lufkin, 2020). In the social aspect, studies have shown that online gaming can provide individuals who experience social inhibition with a discomfort-free context where they can feel at ease as they can create a safe space for interaction (Kowert et al., 2014). In the educational aspect, following Piaget's (1962) theory of game learning, studies have reported positive results on the implementation of (digital) game-based language learning (DGBLL) in learner communication, grammar and vocabulary acquisition (Castillo-Cuesta, 2020) or oral production (Wang & Han, 2021), among others. There has been a surge in the use of digital games in the last decade as an engaging and interactive medium in the education sphere to captivate learners. In the same way, DGBL has gained momentum in the language (i.e., DGBLL) classroom to provide opportunities to practise and develop linguistic skills (Alyaz et al., 2017). Based on Cicero's Latin maxim "*docere, delectare, movere*" (Calvo-Ferrer, 2018), DGBL consists of a combination of playful features and curriculum content, including evaluation and assessment criteria (Xu et al., 2020) to motivate and engage students in learning. DGBLL, also known as Digital Game-Based Language Learning, emerges as an extension of DGBL that places specific emphasis on language acquisition. Likewise, this approach integrates gaming elements, although with a focus on language learning techniques. In this context, where games assume a pivotal role as the vehicle for learning, serious games arise. 'Serious games', as defined by Susi et al. (2007), refers to "games used for purposes other than mere entertainment" (p. 1). These games differ from conventional games in that they are designed to educate players rather than solely provide entertainment (Calvo-Ferrer, 2018; Casañ Pitarch, 2018); in this case, the purpose of the game proposed is to teach literature in the English as a foreign language context.

DGBL accommodates all varieties of digital games, including video games, virtual puzzle games, such as online escape rooms, and (computer) role-playing games ((C)RPG, henceforth). On the one hand, escape rooms are immersive, theme-based and narrative-driven games that require players to solve challenging puzzles in order to escape from a confined space (Manzano-León et al., 2021) in a limited amount of time (Brusi & Cornellà, 2020; Nicholson, 2015; Pan et al., 2017). In the digital format, students are usually asked to collaborate from home (Bellés-Calvera & Martínez-Hernández, 2021; Vidergor, 2021). On the other hand, RPGs are first-person narratives that imply creativity and active decision-making, where the game master's guidance is vital to the story (Virág Zalka, 2012).

Although DGBL has been widely researched and discussed in the education sphere, scant attention has been given to escape rooms (Fotaris & Mastoras, 2019; Spreen & Vu, 2013). Nevertheless, their use in educational settings is burgeoning, albeit limited to STEM (Ang et al., 2020; Borrego et al., 2017; Fuentes-Cabrera et al., 2020; Lior, 2020; Vörös & Sárközi, 2017; Walsh & Spence, 2018), medical disciplines, such as pharmacy (Baker et al., 2020; Cain, 2019; H. Eukel et al., 2020; H. N. Eukel et al., 2017) or nursing (Brown et al., 2019; Morrell & Eukel, 2021), CLIL contexts of social sciences (e.g., history) (Bellés-Calvera & Martínez-Hernández, 2021, 2022) or language and literature (Martínez-Hernández & Bellés Calvera, 2021). Most of the studies have been focused on this game-based technique as a motivation and engagement booster (Ang et al., 2020; Borrego et al., 2017; Cain, 2019; Fuentes-Cabrera et al., 2020). Other studies have seen their potential to develop soft skills, such as Brown et al. (2019) and Eukel et al. (2020) who emphasised escape rooms' affordances in collaborative learning, or Fotaris and Mastoras (2019) who identified several advantages to develop social skills. Furthermore, Lior (2020) underscored the benefits of escape rooms in communicative skills among learners. Despite the potential benefits of using escape rooms for learning, they have not yet been fully applied in the EFL classroom. Not enough attention has been paid to escape rooms, but even less attention has been devoted to video games and serious video games, especially in the field of humanities, and more concretely in the linguistics arena.

Based on the sociocultural perspective in which the learner's environment plays a crucial role in the learning process, second language acquisition (SLA) is enhanced through "collaborative dialogue" and "co-construction of meaning" (Peterson, 2010, p. 431), i.e. interaction with peers (Vygotsky, 1978). In that sense, psycholinguists have identified two types of interaction that can boost SLA: (1) negotiation of meaning that occurs during communication problems and (2) focus on form, which includes corrective feedback and specific linguistic forms that can be difficult for learners (Peterson, 2010). Nevertheless, for collaborative dialogue and co-construction of meaning to occur, learners must have a willingness to communicate (WTC), which can be attained through meaningful tasks and authentic use of the language (Macintyre et al., 1998). Macintyre et al. (1998) also pointed out that students' WTC varies depending on the time and setting in which the communication takes place, different linguistic, communicative and social psychological factors have an impact on learners' predisposition. For instance, learners' interpersonal motivation, personality, command of the target language (Macintyre et al., 1998), self-confidence (Cao & Philp, 2006; Macintyre et al., 1998), group size, learner's familiarity with the interlocutors and topics (Cao & Philp, 2006), among others, are some of the factors that can affect learners' WTC. Taking those factors into consideration, video games can be used as a teaching tool to boost group work and collaboration, while providing a comfortable and familiar setting for students to engage in a meaningful language practice, and thus enhance their WTC.

The use of video games in language learning is not a novel concept, it has actually been in practice since the 1980s (e.g., Hubbard, 1991; Meskill, 1990; Phillips, 1987) (Reinhardt, 2017). Nevertheless, with the democratisation of computer and internet access, video games are no longer an isolated form of entertainment of a few but rather an ingrained cultural aspect (Reinhardt, 2013) that has triggered a recent surge in research (Godwin-Jones, 2014; Reinhardt, 2017). This increased interest in video games applied to language instruction, and education, in general, is attributed to the potential advantages that video games offer. In fact, the last two decades have seen a surge in their application as teaching tools in education settings. Nevertheless, most of the research conducted has been with commercial off-the-shelf (COTS) games that have been applied to the teaching-learning context. These games are used as a platform that facilitates learning, although they do not explicitly cater to it (Cornillie et al., 2012). Video games have often been employed as a motivational tool in the classroom (Ebrahimzadeh & Alavi, 2017), as they have proven successful in retaining learners' attention. Ebrahimzadeh and Alavi (2017) attributed high engagement and motivation with the use of video games to the high-quality graphics, effects and stories that a COTS video game can provide, in contrast to a serious video game. In their study, they measured motivation and language acquisition via a COTS video game. The study was developed in a high school context in which they divided learners into three groups to play: readers, watchers and players. Readers read the instructions and watchers acted as viewers of the gameplay while players engaged in the game. The authors concluded that the watchers had acquired a higher number of lexical items than the readers or the players.

Moreover, as highlighted by Reinhardt (2017), video games allow for a controlled setting for language practice that enhances self-confidence, which links back to the factors that impact WTC mentioned above, and willingness to experiment with the language. Other studies have highlighted other affordances of video games in language learning, such as their potential in developing the learner-player's writing skills (Coleman, 2002; Huertas-Abril & Muszyńska, 2023; Lee, 2019; 2017). Furthermore, these controlled settings have the potential to function as collaborative environments, such as in massive multiplayer online role-playing games (MMORPGs) like *World of Warcraft (WoW)* (e.g., Rama et al., 2012; Zheng et al., 2012). From a social perspective, video games have proven effective to enhance coordination (Zheng et al., 2012) and collaboration (Peterson, 2010), interaction (Newgarden & Zheng, 2016), cultural awareness (Ranalli, 2008), as well as sociolinguistic aspects of language learning, such as negotiation of meaning to name one (Zheng et al., 2012).

In the language-learning sphere, other games have been adopted to enhance learners' linguistic skills and motivation, such as *SimCopter* (Coleman, 2002), *The Sims* (Ranalli, 2008), *WoW* (Newgarden & Zheng, 2016; Rama et al., 2012; Zheng et al., 2012) or *Her Story* (Huertas-Abril & Muszyńska, 2023; Lee, 2019). *Her Story* (Huertas-Abril & Muszyńska, 2023; Lee, 2019) and *SimCopter* (Coleman, 2002) were employed to develop participants' writing skills in the L2. In the former, Lee (2019) focused on the creative side of written production, as well as listening skills and learner motivation, furnishing university learners with an authentic situation enabled by the murder mystery game *Her Story*. The game consists of archived short video files on

a police computer, where learners have to search for keywords to reveal the clips in a non-linear fashion. For this study, learners had to view 60% of the videos as a minimum requirement in order to write a detailed journal and reconstruct the narrative to create a piece of creative writing. Even though learners had indicated in a pre-survey that they did not consider themselves to be creative, results showed students' originality, flexibility, and elaboration. Students' originality was shown through their interpretation of the story, writing their own versions. The video game does not provide a definite story, since videos are played in a non-sequential manner. Therefore, students had to make their own conclusions and interpretations, establishing connections between the events and people mentioned in the interrogation video clips, resulting in different versions of the story. Regarding students' flexibility (i.e., ability to adopt different perspectives), it was developed through writing a first-person diary of the primary and secondary characters in which they expressed their feelings and provided more information to the story. The diaries resulted in subjective accounts, in the case of primary characters, and more objective ones in the case of secondary characters. In writing diaries, students had to add details and expand their ideas to reconstruct the story. In this regard, students' elaboration skills were developed. At the end of the study, a survey was conducted to collect students' views on the use of creativity in the EFL classroom. The results were very positive, indicating that most of them felt creative. Despite the task of reconstructing the story being challenging, the majority found the project engaging, motivating and stimulating their curiosity and creativity.

Similarly, Huertas-Abril and Muszyńska (2023) replicated Lee's (2019) study with fifty university students, twenty-five from Poland and twenty-five from Spain, where students had to write a police report and the case resolution. In this replication, the authors employed a pre-questionnaire, i.e. Self-Ratings Scale for the Assessment of Individual Creativity, as well as "The Biographical Inventory of Creative Behaviors" (BICB) (Batey, 2007 in Huertas-Abril & Muszyńska, 2023). In this study, participants had to watch at least 60% of the video files in the game to produce a two-page creative writing based on the video game, utilising a genre and viewpoint of their choosing. The data were analysed carrying a mixed-methods analysis. To analyse the data obtained in pre- and post- questionnaires, a quantitative analysis was conducted, while a qualitative analysis was conducted for open-ended questions. Results revealed that learners were motivated, and the game provided them with an opportunity to use English for a real purpose.

Coleman (2002) implemented the video game *SimCopter* in a computer-assisted language learning (CALL) setting for pre-undergraduate beginner students of English enrolled in a preparatory course. The participants were assigned two roles: pilot and visitor. The pilot had to provide directions in written form to the visitor, who would follow them to reach a destination. The author concluded that the simulation setting provided by *SimCopter* presented the opportunity for the creation of an environment of convincing realism that cannot be attained in a paper-and-pencil simulation. Therefore, such simulation-based activities can be a recommended approach to enhance writing skills in EFL/ESL contexts. Another study that discussed the potential of computer simulation games as a tool for second language (L2) learning was conducted by Ranalli (2008). He argues that *The Sims* provides an authentic and engaging environment for L2 learners to practice language skills, as well as develop social and cultural competencies. The author sought to find whether the video game enhances vocabulary acquisition with the help of extra resources in a tertiary education context. The results of the study indicate that incorporating supplementary materials along with structured play of the game can assist in vocabulary acquisition. In fact, learners considered those materials important, as the game did not provide enough context for the new lexis. However, despite some learners enjoying the experience of playing video games and expressing a desire to repeat it, there were some who disagreed with the use of *The Sims* for language learning purposes. One of the slightly unfavourable perceptions towards the game was the requirement to attend to the in-game characters' basic needs. In other words, the workings of the game may have distracted learners from the established language learning goals. Therefore, while learners did enjoy the simulation game and see the potential contribution to language learning, they were not entirely convinced about its application to language learning and preferred traditional language instruction.

Rama et al. (2012) explored the advantages of *WoW* for Spanish language learning. The study consisted of eight mixed-ability Spanish higher-education students working collaboratively in the same guild, to reduce the number of topics and conversation participants. Findings revealed that *WoW* provides a low-stress context for language learning, in line with other studies (Soyoof & Jokar, 2014), as well as a "community formation" and "collaborative social relationships" (Peterson, 2010, p. 432). The learner-players benefited from experience exchange in mixed-ability guilds (i.e. novice learners worked with experienced players and vice versa); however, less experienced players found the game confusing and frustrating at times. Nevertheless, the study also establishes that while this can be an advantage, it can also become a drawback, especially when the learner-player is not comfortable interacting with their peers. Furthermore, the study revealed that the game enhanced communicative skills both regarding sociolinguistic and strategic aspects. An example of this was the participation in native-speakers' guilds, where the learner-player can start building rapport with other players with very simple language and explore increased complex language formation over time. In video games, interactions emerge as natural communication (Newgarden & Zheng, 2016). All in all, COTS video games have been used in education and FL contexts to enhance both collaborative learning, communication and language acquisition. However, little research has been conducted exploring the potential of serious games due to limited resources (Peterson, 2010).

As for serious video games, they have been developed and utilised in a variety of educational settings, such as traffic education (e.g., Backlund et al., 2010), cultural learning (Lane et al., 2008), health (e.g., Janarthanan, 2012), or language learning (e.g., (Alyaz et al., 2017; Guillén-Nieto & Aleson-Carbonell, 2012; Li & Topolewski, 2002), which are described below) among others. Regarding the term 'serious video games', Arnseth (2006)

contended that the term itself is paradoxical, considering that games are inherently characterised by playfulness (Reinhardt, 2017) and their main aim is, thus, entertainment, not learning; therefore, the combination of "serious" and "games" is contradictory.

With respect to the design, development, and implementation of serious video games in teaching and learning, Gee (2003) highlighted that well-designed games naturally incorporate learning principles that make them effective as educational tools. In that regard, a well-designed FL-learning serious video game should integrate the four linguistic skills, have a clear goal and encourage cooperation and interaction between the players, as well as provide constant feedback (Baltra, 1990). When designing a serious video game, the literature warns us of the dangers of creating repetitive feedback, scant instructions or excessive number of puzzles that distract from the main learning objective (Backlund et al., 2010; Dempsey et al., 2002; Guillén-Nieto & Aleson-Carbonell, 2012).

Regarding foreign language acquisition, Alyaz et al. (2017) explored the linguistic affordances that serious games can offer to foreign language learners of German. Researchers collected data via a pre- and post-test to establish whether the game had helped learners enhance certain linguistic skills, such as vocabulary acquisition, as well as through a learner diary where the participants recorded their language-learning experiences. Results showed that learners' lexical knowledge improved after playing the game. However, most learners preferred traditional learning methods.

Li and Topolewski (2002) developed a simulation game for Chinese children to learn English based on speech recognition called *ZIP & TERRY* where the learner-player interacts with different simulated home environments and characters. The game, which was designed with curriculum content in mind, without disregarding motivational aspects of gameplay, included different modes of learning: vocabulary, explorative, conversation and activity. Despite taking into consideration elements of gaming in the design to captivate learners' interest, the authors reported the difficulty in balancing both entertainment and education.

In a higher education context, Guillén-Nieto and Aleson-Carbonell (2012) designed and implemented a serious video game to teach intercultural communicative competence in Business English to undergraduate intermediate English Studies students in a Spanish public university. The video game was divided into episodes which corresponded to the different stages in a sales operation. Albeit not a simulation game in essence, it did simulate a business experience in which participants learnt behavioural linguistic customs, rhetorical convention and communication strategies of business English (Guillén-Nieto & Aleson-Carbonell, 2012). Results showed that learners might have needed some previous training to understand the rules of the game and how to interact with the interface in order to avoid possible frustration. Games are characterised for encompassing a prescribed set of rules to which players need to adhere. These rules, coupled with the need to assimilate knowledge and content, may result in the mental strain and cognitive burden in learners (Backlund et al., 2010; Guillén-Nieto & Aleson-Carbonell, 2012).

Existing research regarding serious video games has explored the affordances of said games to not only boost linguistic and cultural skills, but also to enhance learner motivation. Nevertheless, while ample research has been dedicated to COTS games with educational purposes, serious games have not received comparable attention in the literature, least with linguistic aims.

Based on the results illustrated in the literature exploring the application of COTS in the FL context, it is expected that serious games will yield a similar result regarding collaboration and willingness to communicate. Although creating a game that stays true to its nature as a game while incorporating SLA theory or L2 pedagogical approach can be challenging (Reinhardt, 2017), this paper aims to propose the design of a serious CRPG for SLA based on the satiric novel *Animal Farm* (Orwell, 1945) to explore its potential regarding soft skills (i.e. collaboration and communication) in the EFL classroom in a Spanish higher education context. This proposal seeks to answer the following question:

— Can serious video games enhance collaboration and willingness to communicate in the EFL classroom? If so, in which ways?

2. Method

In this section, the teaching context for this pedagogical proposal will be described. Furthermore, the participants' profile for this game will also be detailed along with the materials and instruments needed to conduct the study. Finally, the steps to be followed for its application as well as the recommended data collection process will be described, should the proposed video game be applied in the classroom.

2.1. Teaching context

The module described here consists of 150 hours, which are divided into 60 on-site learning hours and 90 remote self-learning ones. Regarding enrolment rate, there are a total of 98 students, who are divided into three groups. All three of them are scheduled to attend two, two-hour sessions every week (i.e., four hours). Halfway through the module, one of those sessions is specifically designated to discuss the novel *Animal Farm*, namely the metaphors, historical context and satire. In order to provide a well-rounded learning experience, it was decided that the session dedicated to *Animal Farm* would take place mid-course for three reasons: a) students would have enough time to read the book - more than once if necessary, b) they would have learnt functional language for successful communication and collaboration in groups, and c) they would not feel too overwhelmed by the examination period of the end of the course. The video game in this proposal would also be played subsequent to the discussion session for various reasons: (a) to use it as a reading

Figure 1. Ready-made Characters

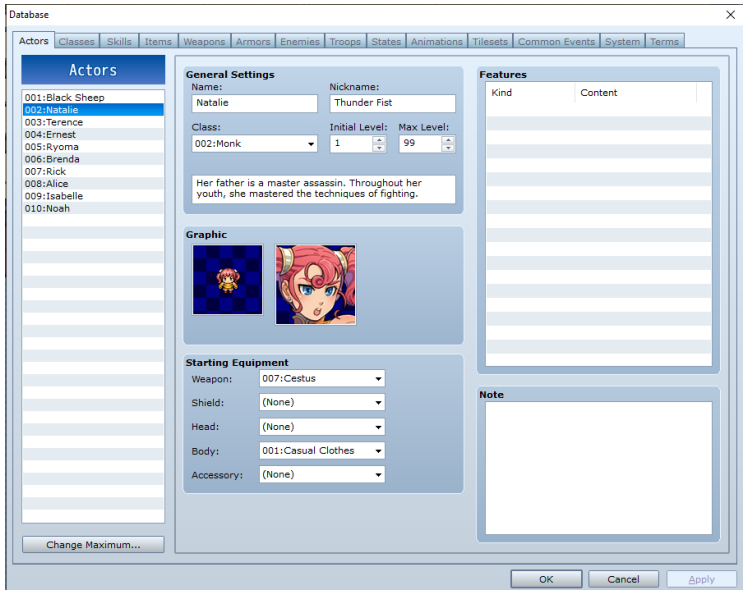
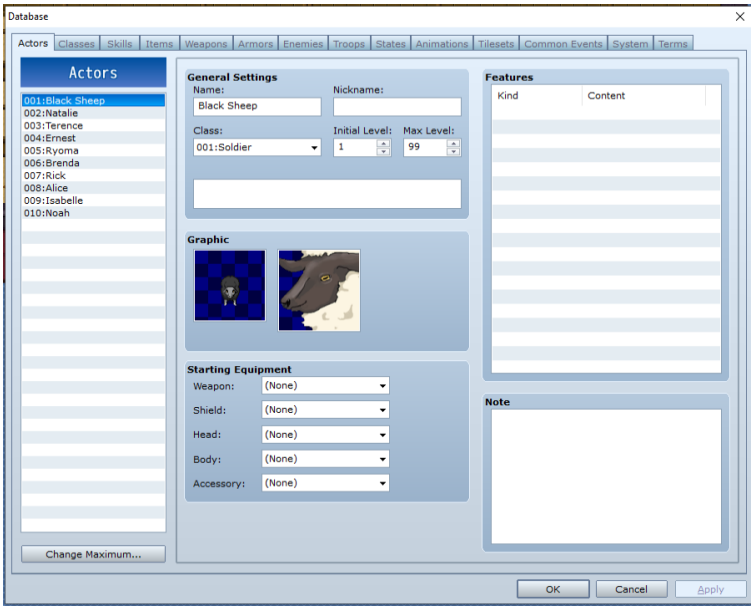


Figure 2. Customised Character



Note. Sheep Image taken from http://eurs.blog65.fc2.com/blog-entry-171.html

comprehension task, (b) to enhance critical thinking, (c) to boost collaboration and (d) to promote communication in the target language.

2.2. Participants

The group of participants for whom this video game is designed are first-year undergraduate students in the Translation and Interpreting degree who have read the satiric novel *Animal Farm*. Seeing that they are willing to pursue a career in a linguistics-based degree, it is assumed that they all share an interest in language learning and in perfecting language skills and thus are intrinsically motivated. In fact, some of them are enrolled in other language courses, such as German or French language modules in their degree or Japanese in the Official School of Languages. Regarding their linguistic background, most of the students enrolled in the module were born in a bilingual region, where both Catalan and Spanish are spoken; some learners are native in both, but others consider Spanish their mother tongue, even though they are proficient in Catalan. Only a few are monolingual in Spanish or a foreign language (Romanian, French, and Chinese). The students are expected to have attained a B2 level prior to enrolment. It is recommended that students have reached a B2 level of English proficiency. Many have taken study-abroad programmes, have participated in language exchanges, immersion programmes at some point or attended extracurricular English lessons at an academy to improve their level. Nevertheless, there are a few students who, due to their socio-economic background or time constraints, have not experienced any of these. Those learners are low upper-intermediate

Figure 3. Main Map: the Farm

Figure 4. The Barn

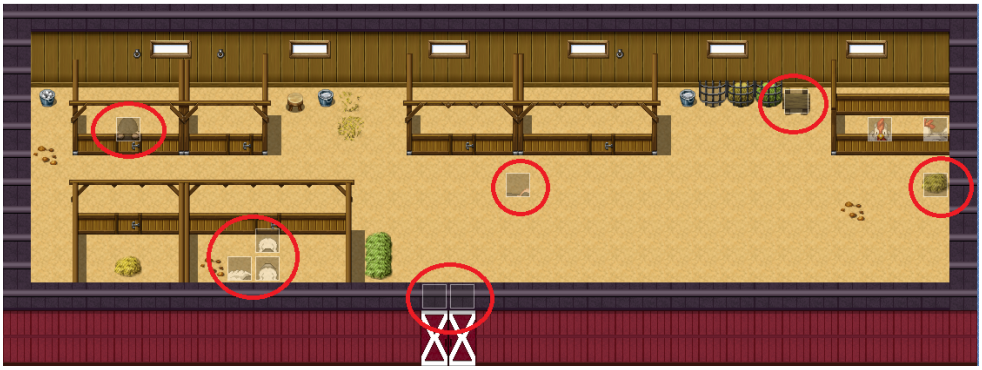


Figure 5. The Manor House. First Floor

Figure 6. Manor House. Second Floor

Figure 7. Example of Event Script

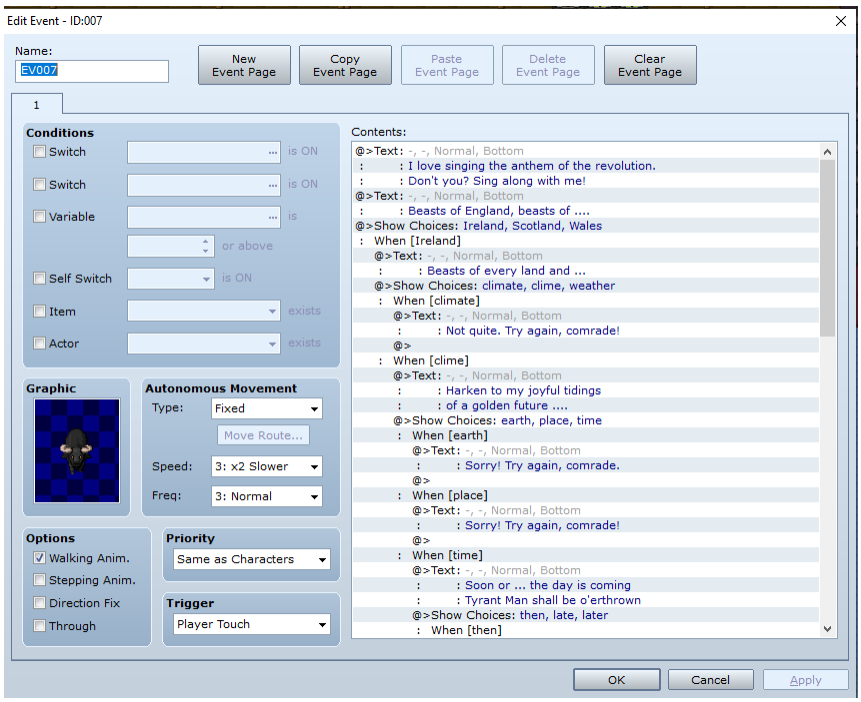
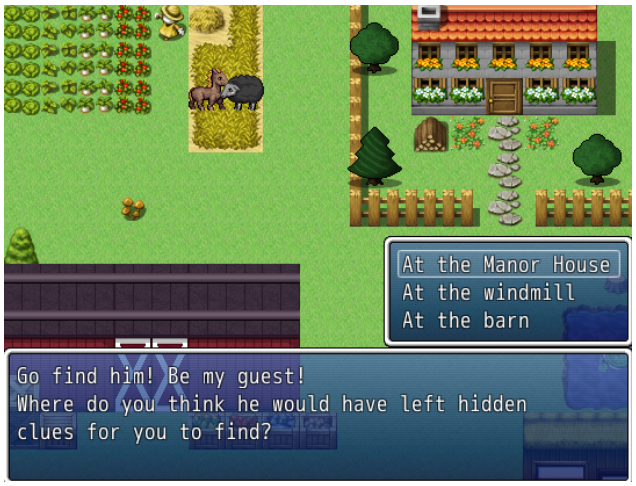


Figure 8. Main chapter speaks to Boxer to obtain key to the barn



(B2.1) students, given that the national curriculum covers the content for the B1 descriptors in the CEFR across compulsory and non-compulsory secondary education, and they were top-performing students in English at school and high-school. Even though this is a mixed-ability classroom, since the proficiency levels range from B2.1 to C1, most learners share a common trait: a high command of receptive skills (i.e., reading and listening), but a low level of production skills (i.e., speaking and writing) within their corresponding levels. A higher proficiency in receptive skills might be due to the vast amount of language input that learners receive daily through the online content they consume. However, they rarely use the language to communicate, or when they do, they use it briefly in an informal online context.

A considerable proportion of learners invest part of their leisure time in gaming, either as a player or a spectator. The variety of video games they play, and watch be played is vast, namely action, simulation, adventure, role-playing, sports, strategy, music or puzzle video games, either online or offline. Their interest in video games has developed their computer literacy resulting in high IT competence. Furthermore, it has made them acquainted with the workings of video games and what they are expected to achieve.

2.3. Materials and instruments: Game design

The video game has been designed with RPG Maker VX Ace (Enterbrain, 2011), which is a software for developing role-playing video games. Users can create and customise their own gaming worlds, characters, stories, and gameplay mechanics with the set of tools the application offers. The program includes a range

Figure 9. Instructions

of pre-made assets, such as character sprites[1], tilesets[2], and music, but it also allows for the creation of customised elements. Figures 1 and 2 show an example of a ready-made character sprite and a customised one, respectively, added for the purpose of this game. Moreover, users can also incorporate other gameplay elements, namely dialogues, quests, stats, abilities and behaviours of characters and enemies to fit the game's narrative.

Even though its interface may not seem too straightforward or intuitive at first for non-experienced game designers, its vast online community provides free tutorials that make this drag-and-drop interface relatively easy to use. It is worth pointing out that its large and active community of users is an additional advantageous aspect of using this software. It is a valuable resource for users to seek help or exchange ideas. They design sprites, tiles, tutorials, plugins and scripts for other users to benefit from, although some require attribution or purchase.

The maps that compose the game are inspired by the different settings in the novel *Animal Farm.* The main map where the players' adventure begins is the farm itself (see Figure 3), where the manor house and the barn can be seen, as well as the fields. Other locations, such as Mr Pilkington's farm, have not been included to maintain simplicity, as illustrating clearly the workings of the game is a priority, although they could certainly be incorporated in future versions. The manor house and the barn are both two locations in their own right and play an important role in the novel; thus, a map has been created for each of these settings (see Figures 4, 5 and 6).

Note the shaded squares in the figures above, some of which contain animal characters, represent events in the game. Even though they are made evident in design mode with the framing and shading, they become invisible in game mode and the only way to discover them is by exploring the map and all the objects in it. The term 'event' refers to a scripted occurrence or action (see Figure 7) used to create interactive elements or trigger dialogues, among other things. These are placed on maps and are triggered by specific conditions or player interactions, such as stepping on a tile. In this game, events have been used to conduct the player in the right direction, as they need to follow an exact order or path. For instance, the barn and manor house are locked unless the player speaks to the horse first (see Figure 8), who will give them the key to the barn when they answer one question correctly. When in the barn, the player will discover more clues that will take them to the manor house, and so on.

Some students might not be familiar with the workings of CRPGs, or even if they were, they might not know how to get started. Therefore, it was deemed necessary to include the instructions in the game to guide players (Figure 9), especially to get them started.

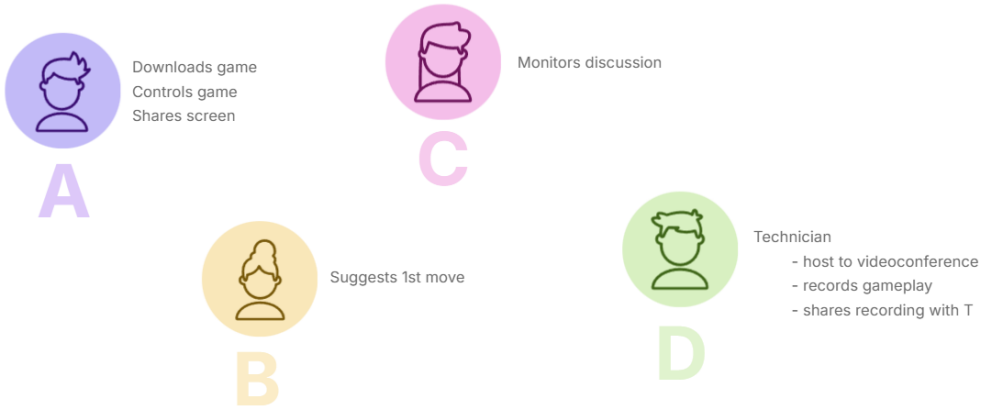
2.4. Procedures and development

2.4.1. Pedagogical application

The game would be played on a Google Meet video conference, as access is provided by the institution, after the students have read the book and acquired critical knowledge about the satirical significance of the novel, which is discussed in the classroom. In order to play the game, students make groups of four or five, depending on whether there is an even or odd number of learners. It is important that students make their own groups to facilitate a friendly and safe environment where they are comfortable to speak the target language; otherwise, their willingness to communicate might be affected, and, in turn, so would collaboration.

1 'Sprites' refer to two-dimensional graphic elements that represent characters or items.
2 'Tileset' refers to a collection of graphical tiles that are used to construct the game's environments and maps (e.g., terrain, door or other objects).

Figure 10. Summary of student roles



After group-formation takes place and the game has been shared on the online platform, roles are assigned to the group members (see Figure 10 for illustrative summary). For instance, given that the main character in the game is one sheep only, Student A would download the game and assume the role of the main character. Student A is the one who will have the command of the game and will share their screen on the video conference for everyone to see. In other words, Student A becomes the focal point of interaction and collaboration, with the other learners actively engaging with the game's narrative and mechanics while collectively exploring and discussing its intricacies. In order to foster collaboration and enhance WTC, Student A cannot start to play without Student B's suggested move. Students must negotiate every other player's suggested move and reach an agreement, especially when answering questions, arguments to which must be supported with evidence from the book. Once agreement is reached, Student A can go ahead and move the character across the game map or choose the answer agreed. After that, Students C and D would make their contributions to the game, and so on and so forth. In that sense, Student B's role is to break the ice and start the adventure. Student C's role would be to monitor the discussion and ensure all students contribute equally. In the event that Student C realises that another learner's arguments or suggestions are relatively brief, they have the option – or power – to provide assistance by asking them with questions or assuming the role of the Devil's advocate. This approach serves to foster oral production by encouraging further elaboration and deeper engagement in the discussion. Student C plays a supportive role, aiding in the development of other learners' ideas, which promotes an interactive and dynamic communication exchange. Student D would assume the responsibility of acting as host for the video conference, encompassing tasks such as scheduling the event on Google Calendar, inviting all the participants, generating the link to the Google Meet session and overseeing the smooth functioning of technical aspects. Student D ensures that Student A shares their screen before recording and manages any potential disruptions caused by external noise by muting participants' microphones. Additionally, Student D assumes the role of recording the gameplay and discussion, and subsequently sharing it with the teacher, ensuring that everything has been captured and is made available for assessment and data collection.

Students will need to complete two questionnaires, one prior to the gameplay session, and another one after the game has been completed. These will be detailed further in the next subsection.

2.4.2. Data collection

The pedagogical proposal presented in this article does not include data collection in its methodology. It is nonetheless detailed and suggested in this section for future research and implementation of the said proposal.

In order to gather comprehensive data on students' WTC and their collaborative performance and experience with the proposed serious *Animal-Farm*-based video game, a mixed-method analysis should be employed to collect quantitative and qualitative data. Firstly, a frequency Likert-scale pre-questionnaire in the form of self-report taken from Cao and Philp's (2006) (see Appendix 1), would be provided to students to gather data on their behaviour and WTC in the target language in different contexts. The self-report would be useful to assess students' communication apprehension, motivation, self-perceived competence, and anxiety levels. It would provide valuable insights into students' subjective perceptions and experiences, contributing to a more holistic understanding of their engagement and attitudes towards the game and their WTC. Additionally, a post-questionnaire would be administered to participants to evaluate their experience and impact on their WTC during the gameplay (see Appendix 2)

Secondly, video analysis would be conducted in order to observe and track the frequency, length and quality of students' contributions and interactions between group members, their participation levels in group discussions (e.g., initiation of conversation), and their confidence in expressing ideas. This observational method would allow for a detailed examination of the dynamics and effectiveness of communication within the gaming environment.

Furthermore, to assess collaboration in the above-described video game setting, a peer assessment questionnaire (see Appendix 3) should be administered. The questionnaire (see Table 3) aims to gather students' views on the effectiveness of teamwork of other team members. According to Swan et al. (2008), it is important to evaluate teamwork, both individually and collectively. When assessing collaborative projects, Higley (2016) recommends peer-assessment. In that sense, a questionnaire has been designed for this purpose, which includes a series of carefully designed items to measure various aspects of collaboration, such as communication, cooperation, problem-solving, and contribution to the team's goals. In order to facilitate assessment and data collection, a form would be created on Google Forms containing the questions below. Participants would be asked to submit a form for every member of their team, indicating the name of the assessed person at the top of the form. Google Forms would also collect the participant's email address to have a record of those who do complete the activity. Learners would evaluate their peers by answering the questions after completing the game. This questionnaire serves as a valuable tool to both assess and promote collaborative learning, allowing students to reflect on their own contributions and gain a better understanding of their strengths and weaknesses in collaborative tasks. These data would be employed to assess and analyse collaboration.

3. Discussion

This section contains foreseeable and expected results based on the literature review to answer the research question: Can serious video games enhance collaboration and willingness to communicate in the EFL classroom? If so, in which ways?

Firstly, the analysis of possible results might indicate that collaboration and WTC are enhanced through the use of real-life application of language (Macintyre et al., 1998) in team gameplay, given that the video game provides a context for authentic language use. Students would be motivated to communicate in English as they navigate through the game's scenarios and interact with virtual characters and their peers. This authentic use of language in a controlled and safe environment might enhance their language skills and confidence (Reinhardt, 2017), as they are immersed in meaningful tasks that require effective communication (Macintyre et al., 1998). Furthermore, these social skills might be further reinforced by the escape room format the video game procures (Brown et al., 2019; H. Eukel et al., 2020; Fotaris & Mastoras, 2019; Lior, 2020), which is divided into a linear sequence of missions that require group discussion and agreements to unlock. The fact that the team members share a common goal (Savery & Duffy, 1995; Whitton, 2009) promotes engagement and interaction with the social and simulated environments. By immersing themselves in the virtual world, students are encouraged to collaborate with their peers to complete the game. In that sense, students are presented with challenges and obstacles within the game, which encourage interaction, negotiation, and exchange of ideas, thereby promoting teamwork and effective communication skills.

Nevertheless, it is also possible that the findings may indicate a lack of engagement from some learners in the video game activity and discussion. Some learners may not share the same enthusiasm for learning through the serious video game proposed, which would be consistent with Reinhardt's (2017), Whitton's (2009) and Rama et al.'s (2012) findings.

4. Conclusions

The aim of the present proposal was to design a serious video game based on the satirical novel *Animal Farm* (Orwell, 1945) and apply it to an EFL context to examine how it can boost collaboration and WTC in learners. Among the possible findings resulting from its application might be engagement, interaction, discussion negotiation, and exchange of ideas.

However, the serious game proposal has several weaknesses that must be addressed, namely compatibility, connectivity issues, monopolisation and teacher workload. Firstly, RPG Maker VX Ace (Enterbrain, 2011) video games are only compatible with Windows operating systems. This restriction limits accessibility for those participants who might use MacOs or Linux. Nevertheless, this limitation is partially mitigated by assigning roles to students. Yet, it still restricts the pool of students who can take the role of Student A. Another potential challenge is the possibility of students encountering connection problems during the gameplay session. Unstable internet connections or network issues may disrupt the discussion and the game, leading to frustration. Another limitation to consider is the potential monopolisation of certain students within the game and the discussion. Some students might dominate the gameplay and take on leadership roles, potentially overshadowing the contributions of other students. This could result in unequal participation and limited opportunities for introverted learners to engage. Nevertheless, the fact that Student C takes a monitoring role in the discussion would be a strategy to address this last issue and promote equal participation, creating a supportive and inclusive environment that encourages engagement.

Moreover, some learners might not share the same interest in learning through games owing to the conventional perspective that education and entertainment are two distinct domains (Reinhardt, 2017; Whitton, 2009). Student rejection for gameplay can also be due to their reluctance to interact with others (Rama et al., 2012), as not all students are sociable or feel comfortable working with or receiving feedback from their peers. Additionally, learners who are unfamiliar with the interface and/or rules of the game might find it frustrating, confusing and time-consuming (Rama et al., 2012). Furthermore, teacher workload is a drawback in designing serious video games, as it is considerably time consuming and it requires basic knowledge of the workings of RPGs, as well as proficient digital skills (González-Lloret, 2020). To alleviate these last concerns, potential solutions could involve collaborative work among teachers to create the different settings and challenges

within the game. Another alternative could be to have groups of students design their own iterations of the game for their peers to engage with.

In future applications or studies, it is recommended to explore the inclusion of boss battles to unlock locations and clues within the game. For instance, incorporating three boss battles, such as facing Napoleon's dogs, confronting Squealer, and ultimately challenging Napoleon himself, could add an exciting dimension to gameplay. However, due to time constraints, these boss battles were not included in the current version of the game and this proposal. Additionally, to further customise the game, a potential avenue would involve designing characters from scratch instead of relying on community-created sprites.

All in all, by integrating a serious RPG into a course programme, several achievements and potential benefits can be realised. Firstly, the adoption of a serious RPG can enhance student engagement and motivation, as the interactive nature of the game offers a captivating learning experience. Secondly, incorporating an RPG can promote active learning and critical thinking skills, as players are often required to make decisions, solve complex problems and navigate through challenges, fostering higher order skills. It also encourages creativity, as students need to think outside the box to overcome obstacles. Finally, the collaborative and cooperative nature of the proposed game cultivates teamwork and communication skills, since players need to negotiate and communicate to achieve a shared goal.

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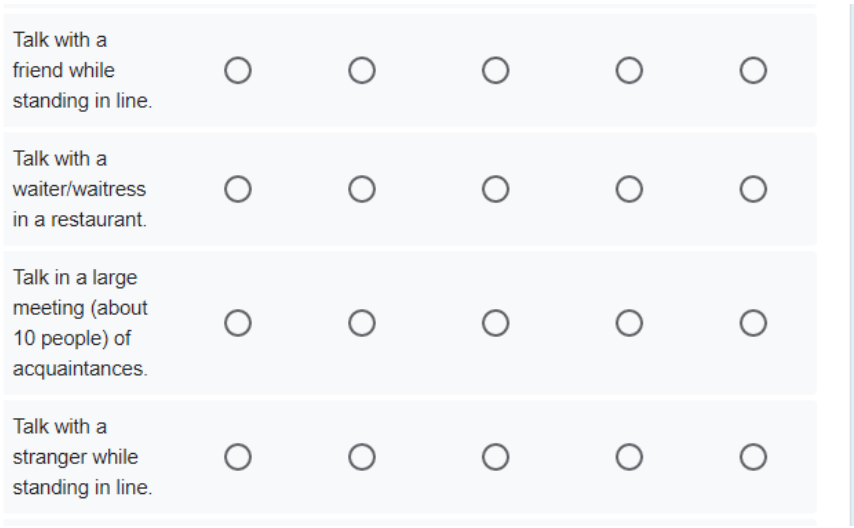
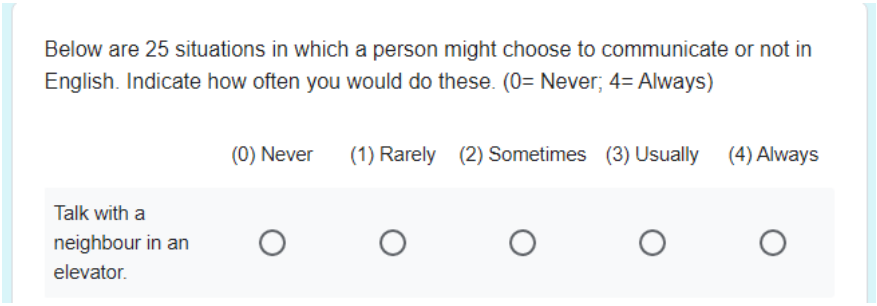
Appendices

Appendix 1: Pre-questionnaire



Talk with a friend while standing in line.	○	○	○	○	○
Talk with a waiter/waitress in a restaurant.	○	○	○	○	○
Talk in a large meeting (about 10 people) of acquaintances.	○	○	○	○	○
Talk with a stranger while standing in line.	○	○	○	○	○



Below are 25 situations in which a person might choose to communicate or not in English. Indicate how often you would do these. (0= Never; 4= Always)

	(0) Never	(1) Rarely	(2) Sometimes	(3) Usually	(4) Always
Talk with a neighbour in an elevator.	○	○	○	○	○

Willingness to communicate: Pre-questionnaire

Taken and adapted from Cao and Philp's (2006)

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* Indicates required question

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Volunteer an answer when the teacher asks a question in class.	○	○	○	○	○
Talk in a large meeting (about 10 people) of friends.	○	○	○	○	○
Talk to your teacher after class.	○	○	○	○	○
Ask a question in class.	○	○	○	○	○
Talk in a small group (about five people) of strangers.	○	○	○	○	○

Talk with a stranger on the public transport	○	○	○	○	○
Speak in public to a group (about 30 people) of strangers.	○	○	○	○	○
Talk with an acquaintance while standing in line.	○	○	○	○	○
Talk with a salesperson in a store.	○	○	○	○	○

Talk with a garbage collector.	○	○	○	○	○
Talk in a large meeting (about 10 people) of strangers.	○	○	○	○	○
Talk with a librarian.	○	○	○	○	○
Help others answer a question.	○	○	○	○	○

Present your own opinions in class.	○	○	○	○	○
Talk with a shop clerk.	○	○	○	○	○
Speak in public to a group (about 30 people) of friends.	○	○	○	○	○
Talk in a small group (about five people) of acquaintances.	○	○	○	○	○
Participate in group discussion in class.	○	○	○	○	○

Talk in a small group (about five people) of friends.	○	○	○	○	○
Speak in public to a group (about 30 people) of acquaintances.	○	○	○	○	○

A copy of your response will be emailed to amartinezhernandez2@uoc.edu.

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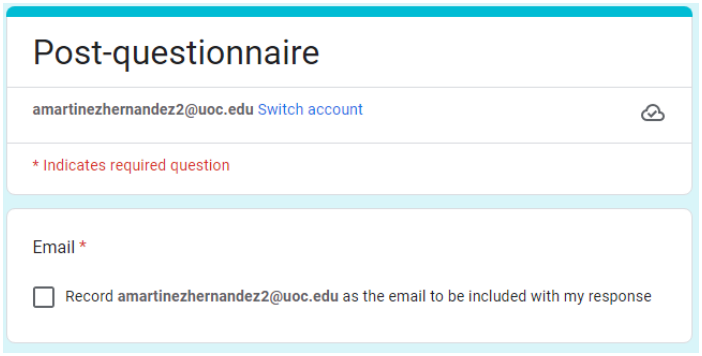
Appendix 2: Post-questionnaire



Post-questionnaire

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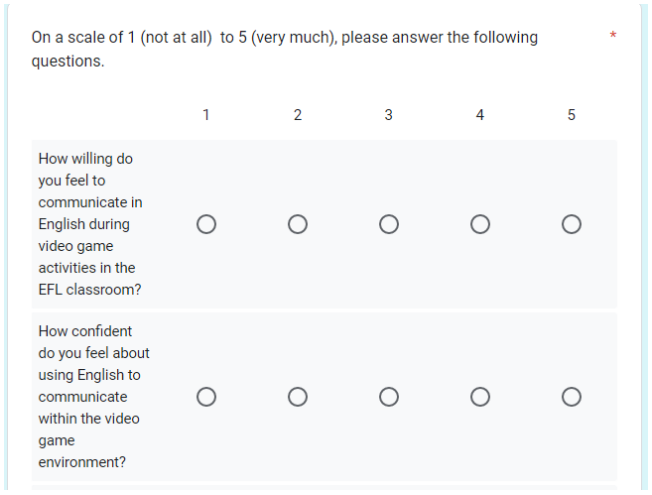
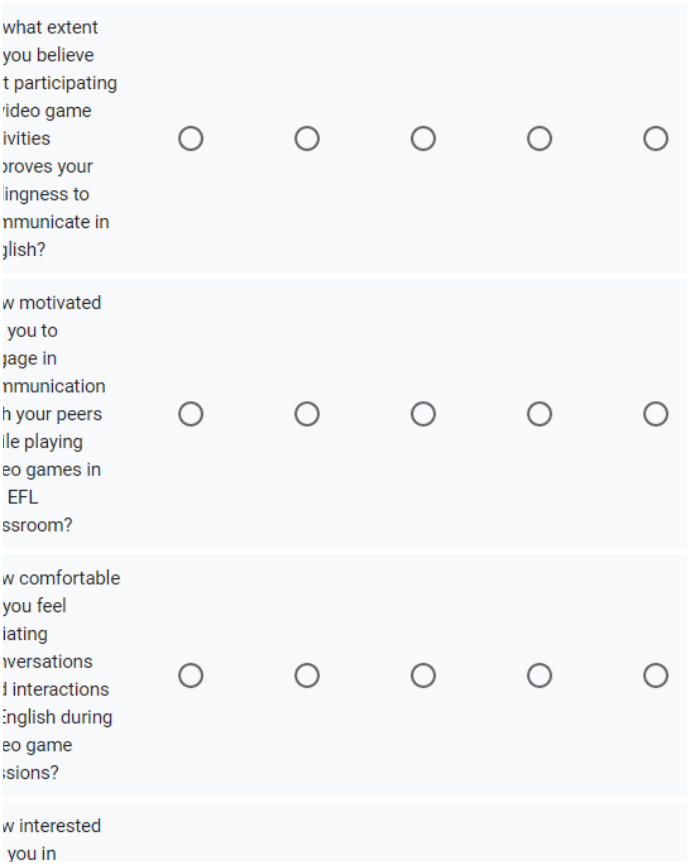


On a scale of 1 (not at all) to 5 (very much), please answer the following questions. *

	1	2	3	4	5
How willing do you feel to communicate in English during video game activities in the EFL classroom?	○	○	○	○	○
How confident do you feel about using English to communicate within the video game environment?	○	○	○	○	○



what extent you believe t participating ideo game ivities proves your lingness to nmunicate in glish?	○	○	○	○	○
w motivated you to age in nmunication h your peers ile playing eo games in EFL ssroom?	○	○	○	○	○
w comfortable you feel iating versations interactions nglish during eo game sions?	○	○	○	○	○
w interested you in					

How much do you believe that video games enhance your language skills, including speaking and listening, in the EFL classroom?	○	○	○	○	○
To what extent do you perceive video games as a safe and supportive environment for practising English communication?	○	○	○	○	○

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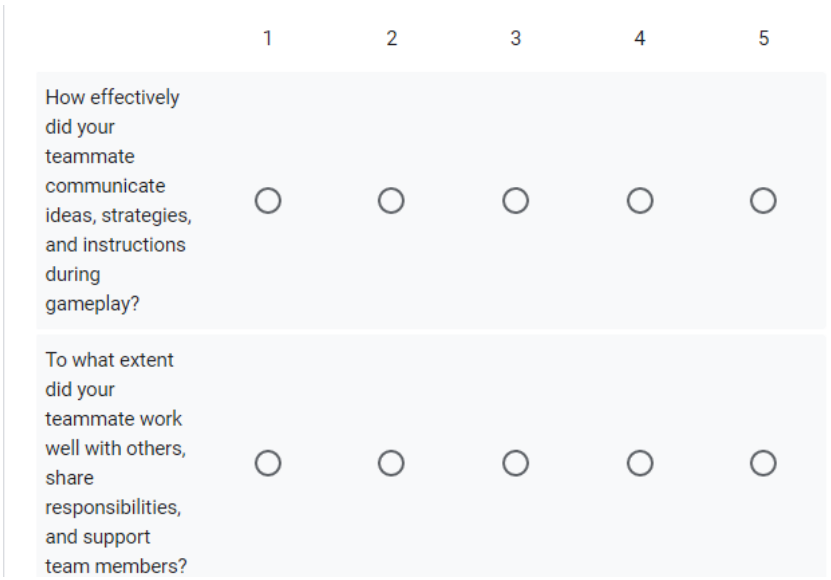
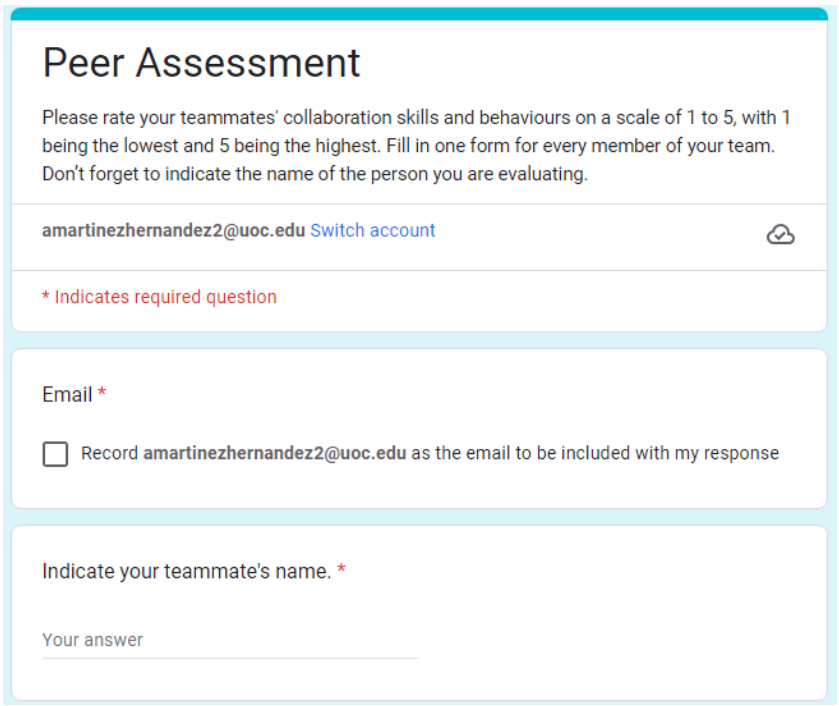
Appendix 3: Peer assessment



	1	2	3	4	5
How effectively did your teammate communicate ideas, strategies, and instructions during gameplay?	○	○	○	○	○
To what extent did your teammate work well with others, share responsibilities, and support team members?	○	○	○	○	○



Peer Assessment

Please rate your teammates' collaboration skills and behaviours on a scale of 1 to 5, with 1 being the lowest and 5 being the highest. Fill in one form for every member of your team. Don't forget to indicate the name of the person you are evaluating.

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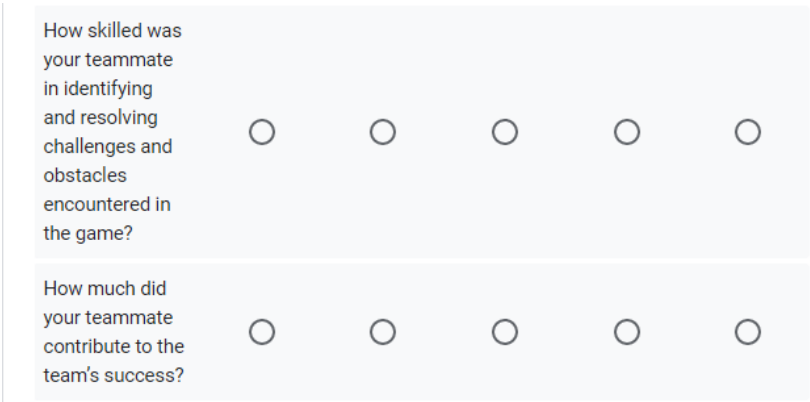
* Indicates required question

Email *

☐ Record **amartinezhernandez2@uoc.edu** as the email to be included with my response

Indicate your teammate's name. *

Your answer



How skilled was your teammate in identifying and resolving challenges and obstacles encountered in the game?	○	○	○	○	○
How much did your teammate contribute to the team's success?	○	○	○	○	○

How well did your teammate adapt to changing situations, adjust strategies, and collaborate with others in dynamic gameplay?	○	○	○	○	○
To what degree did your teammate demonstrate leadership qualities, such as organising and guiding the team towards the game objectives?	○	○	○	○	○
How reliable was your teammate in fulfilling their assigned task(s)?	○	○	○	○	○

How well did your teammate foster a positive team atmosphere, promote collaboration, and support fellow teammates?	○	○	○	○	○

A copy of your responses will be emailed to amartinezhernandez2@uoc.edu.

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