

The use of video games in the teaching-learning process of English as a Foreign Language

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Abstract— Among the technologies currently found in the daily lives of students, the video game is certainly one of the most common. However, there is little academic research relating this media to the teaching-learning process of English as a Foreign Language (EFL). Based on the works of Krashen (1981, 1982), it is believed that video games might be an effective support tool in the second-language acquisition (SLA) process, as well as a motivational factor, as per the Multiple Intelligences theory developed by Gardner (1994). From this perspective, this study aims to discuss the use of video games as a tool in this process, as well as provide some initial guidelines regarding the practical use of this technology in this context. To this end, language learning possibilities in three games of different genres will be presented. By combining the gameplay in those virtual environments with the theoretical perspectives chosen, it is believed that those games may prove to be an efficient and motivating learning tool.

Index Terms— English as a Foreign Language teaching-learning, technologies in education, videogames.

I. INTRODUCTION

In view of the need to amend and update the teaching and learning of EFL, approaches have changed and improved throughout the years, with new methods and teaching techniques being constantly presented. One of the focal points of these new approaches refers to the use of non-didactic tools that facilitate and motivate learning, such as music and movies. It is also believed that video games are useful to people of all ages in learning EFL, complementing or even being responsible for language development. References [1] (unpublished), [2], [3], [15], [17], [21], [22], among others, have explored the effects of video games in English acquisition and learning, both from practical and theoretical perspectives. Even though definitive results are yet to be presented, these studies have shown that the use of video games in SLA should be considered by researchers and educators alike.

That said, it is known that the acquisition of a foreign language takes place in many environments and occurs through different processes. Therefore, the main objective of this paper is to lay out a few possibilities of the practical use of video games in the classroom. In order to

achieve that goal, some theoretical perspectives of language acquisition and learning motivation will be discussed and then applied using three video games: Scribblenauts Unlimited, Wario Ware: Smooth Moves and Lord of the Rings Online.

II. LANGUAGE ACQUISITION AND MOTIVATION

The array of researchers who seek to effectively explain the process of language acquisition is relatively large. In the past decades, several theories - many of which contradict one another - have been proposed, which has led to the creation of new teaching approaches that improve the SLA process [6]. Moreover, other theories in which the focus is not centered on language acquisition have been encompassed by this field, allowing educators and researchers to complement their work based on these studies. In this section, some theories considered relevant to this research are discussed.

A. Krashen's hypothesis

In his dissertation, [2] deals with the difference between formal language learning, that is, the formal process of education that focuses on the structural formations and rules of grammar, and language acquisition, which refers to the natural process of assimilation, similar to the development of first language. According to the author, this is probably the most important of his proposed hypotheses, because he considers the acquisition process more effective than formal learning. Thus, to develop skills in a more effective way, an EFL student must be immersed in real communication situations, in which they could actively interact.

Furthermore, Krashen states that the acquisition of grammatical structures has a "natural order", which is predictable, and to assimilate those structures effectively the learner must be exposed to an input of a higher level than that in which he/she lives. The researcher exemplifies saying that a student that is at level 'i' should be exposed to a comprehensible input of level 'i + 1'. Thus, the student will advance in the natural order of the language, enhancing and progressing in his/her knowledge. Krashen also addresses personal factors that influence the acquisition process such as anxiety, empathy and self-confidence. Students with low self-esteem tend to have more difficulties in acquiring the language, given that they will avoid taking risks, limiting

themselves to expressing only what has already been internalized. Mistakes and attempts are important in the process of language acquisition/learning and, therefore, it is essential that students feel comfortable in this process. Moreover, the lack of empathy of the student towards the subject of study may also hinder language development, since an unmotivated learner tends to reject the content at hand – especially in formal learning environments. Thus, even with a comprehensible and adequate input, such emotional barriers may inhibit acquisition and/or learning.

With that in mind, it can be said that, being a consolidated social practice, playing video games relates directly to Krashen's hypotheses, given that the player approaches the language in a real context, carefully designed and developed by native speakers. Furthermore, there is interaction between the player and the game being played. Some games also allow (or even require) interaction among multiple players, allowing an extensive use of the target language in an informal environment, which can contribute to reduce or eliminate negative emotional factors. This interaction allows what Gee [11] calls active learning, in which the student does not have a passive reaction towards the learning environment, but rather establishes a direct relationship with it. Video games not only require the player to interact with their virtual environments, but also to adapt to it; after being modified by a player, a game environment provides immediate answers and shapes its structure according to the decisions made during gameplay (Gee 2003; Squire, 2005). Moreover, several multi-player games require participants to form groups in order to achieve a mutual goal, acting in a collaborative process in which communication (and therefore, language use) is a determining factor. Hence, video games can provide, in an EFL environment, a suitable input which is able to challenge the player to advance in the game and, consequently, develop the language, since it is an essential element for this progression to occur.

B. Motivation

Expanding the scope of Krashen's affective filter, it is relevant to investigate motivation theories applied to language acquisition and learning that have been developed in the past decades, such as [7] and [8]. While those studies are not going to be discussed in this paper, the research of Ushioda [19] and [20] encompasses and complements previous research in this field. To begin with, the author claims that the effectiveness of motivation can oscillate during the learning process due to internal and external influences and, therefore, the teacher must be able not only to create motivation, but also to maintain and renew it.

To this end, [20] highlights the importance of the distinction between intrinsic motivation and extrinsic motivation. She points out that intrinsic motivation is related to pleasure or desire to perform an activity for its own sake, while extrinsic motivation focuses on the results that will be obtained with a particular practice. Towards learning, intrinsic motivation tends to be more

effective, since the learner is sincerely interested in the subject. However, extrinsic motivation should not be ignored, given that in certain cases it can be equally effective. The author emphasizes the importance of another aspect of motivation: the "internalized motivation" or "motivation from within" [20]. She says that both intrinsic and extrinsic motivation must begin with the student, and not be imposed upon him. Therefore, "the key lies in orchestrating the social learning environment and learning experiences in such a way that students will want to participate and want to learn" (p.80), that is, the teacher must understand what motivates the students and use it in the class, encouraging them to participate and contribute to the learning process. This "socialization" in learning is able to develop and maintain intrinsic motivation and thus improve the students' performance:

Socializing learning motivation in the classroom thus entails giving students plenty of opportunity to engage with new and different activities and materials and broadening the scope of their experience, since it is through participation in experience that individual motivation will develop [20] (p.82).

Therefore, in view of the growing interest of children, young adults and adults by video games, their inclusion in the learning environment may prove to be suitable for the development and maintenance of motivation. Ushioda [20] claims that "in their interactions with students, teachers need to promote a sense of continuity between what they learn and do in the classroom, and who they are and what they are interested in doing in their lives outside the classroom, now and in the future" (p. 83). Furthermore, showing that learning a language can improve their personal experiences outside the classroom is certainly an effective way to create and/or maintain intrinsic motivation. Thus, it is part of the teacher's role to make students realize that

A foreign language is not simply something to add to our repertoire of skills, but a personalized tool that enables us to expand and express our identity or sense of self in new and interesting ways; to participate in a more diverse range of contexts and broaden our horizons; and to access and share new and alternative sources of information, entertainment, or material that we need, value or enjoy [20] (p.82-83).

Hence, we believe that the proper use of video games in a classroom might establish a close relationship between the teacher and the students, as using media that is present in the daily life of students creates a sense that the teacher cares about the students' activities and interests outside the classroom. Moreover, it may also arouse students' interest in learning the language, enabling them to participate more actively in the activities and practices involved in the learning process.

C. Multiple Intelligences

Along the same line, the theory of multiple intelligences [9] may be related to motivation, inasmuch that it states that every individual has different capabilities, to a greater or lesser extent, which directly influence the learning process. According to the author, each person can develop at least seven distinct intelligences throughout his/her life. These intelligences are described by [14] who posits that linguistic intelligence refers to the ability to work with the language effectively and creatively whereas musical intelligence is the ability to recognize patterns of tone and also sensitivity regarding pace, pitch and melody. Logical-mathematical intelligence, in turn, is linked to the ability to easily use numbers, recognize abstract patterns and engage in reasoning, while spatial/visual intelligence refers to one's ability to orient him/herself in an environment, plus the ability to create mental images and perceive shapes and colors. Next, bodily-kinesthetic intelligence is associated with the ability of an individual to use the body to express and solve problems, whilst interpersonal intelligence is the ability to understand the feelings, intentions, desires and motivations of others. Lastly, intrapersonal intelligence refers to the ability of a person to understand his/her own self and to have self-discipline.

Following these concepts, Gardner's theory has been used in language teaching, given that considering the unique capabilities of each individual results in the creation of a more attractive learning environment, making the students feel motivated to learn the language.

That said, we believe that video games can be directly related to the multiple intelligences theory, since they work with several intelligences simultaneously; consequently, video games might be useful supporting tools in EFL classrooms. The roles of the seven intelligences in video games are presented in the following table:

TABLE 1
THE ROLE OF INTELLIGENCES IN VIDEO GAMES

Intelligence	Role in video games
Verbal-linguistic	Provide guidelines, tips, instructions and also present the storyline and plot through written and/or spoken language.
Logical-mathematical	Solving problems and puzzles, quick mental reactions to the challenges of the game.
Spatial-visual	Having appropriate perceptions of the virtual space, recognize shapes and patterns.
Bodily-kinesthetic	Motor coordination, ability to use the controller effectively and have quick physical responses to the challenges of the game
Musical – Rhythmic	Mainly used in musical rhythm video games to help in the advancement in the game. Also, the soundtrack complements the establishment of the game's atmosphere.
Interpersonal	Enable effective communication in cooperative games and online games.
Intrapersonal	In more complex and elaborate narratives allows self-reflection based on the themes addressed.

III. THEORY IN PRACTICE: CONTEXTUALIZING THE USE OF VIDEO GAMES

Given the theoretical points brought up in section 2, we consider relevant to relate them to practical ways of working with video games in the teaching-learning process of EFL. As already discussed, its use appears to be quite interesting, since, due to the linguistic complexity currently displayed by some games, the virtual environments created by them resemble real communication environments, working with the language naturally and providing a high-level input, as proposed by Krashen in [13]. Moreover, they work simultaneously with several of the intelligences proposed by Gardner [9], increasing the learner motivation and reducing personal factors that negatively influence the learning process. To elucidate the relationship between theory and practice, we selected three games from different genres whose mechanics and content allow their use as tools that may effectively support language learning.

Thus, possible applications of the video games *Scribblenauts Unlimited*, *WarioWare Smooth Moves* and *Lord of the Rings Online* are going to be described in detail below. For better understanding, the games will be separated by genre.

A. *Wario Ware Smooth Moves*

In *Wario Ware Smooth Moves*, released in 2006 for the Nintendo Wii, the player must perform movements with the console's motion joystick (wiimote) to complete the challenges set by the game. These challenges are presented through words or short sentences in the imperative form that indicate the type of action that should be taken by the player, who has a few seconds to perform the requested movement and advance in the game. If the player does not know the words, he/she may try to accomplish the task according to its context. For example, in one of the stages an image of a person holding a broom appears in the screen, followed by the phrase "Don't drop it!" The player must then place the wiimote in the palm of his hand, as if balancing a broom.



Figure 1. Example of task in *Wario Ware Smooth Moves*

Thus, the game works with vocabulary and basic structures of English, allowing the player to have contact with several action verbs, which are then performed. Hence, the player is exposed to language in contexts that simulate practical uses and provide a comprehensible input, which refers to [13]. In addition, the game is divided into several stages, and in the beginning of each one there is a short story involving the characters of the game. However, the stories and tasks in the game are not transmitted orally, limiting the player to read them. The only moment in the game that features the voice acting of native speakers is during the instructions, which are narrated comically.

Taking into account all these elements, the game works with several intelligences simultaneously: it is necessary to understand what is written (linguistic), perform the movements correctly (bodily-kinesthetic), make logical relationships to complete the tasks (logic) and have spatial awareness, as some challenges work with the perspective of space and the perception of specific forms (spatial / visual).

One possible application of Wario Ware Smooth Moves in a classroom is to make students take turns playing. One of the game's multiplayer modes does it naturally, allowing up to five players to participate in the same match, performing tasks in alternating turns to see who gets the best score. The single player mode can also be used by determining that each student can play a certain number of rounds or until he/she loses. The teacher should also encourage students to help each other, always using English to communicate. The tasks with a higher incidence of failure can be written down by the teacher to be discussed and examined after the game.

Therefore, the use of Wario Ware Smooth Moves in an EFL class can also be quite interesting. The game has a very comical tone, and many tasks are "absurd". This mitigates the fact that students cannot play all at the same time, since even those who are only watching can have fun, which helps to set a friendly and relaxing atmosphere capable of increasing their motivation. Even though the game works mostly with simple structures, some unusual words are displayed. This may contribute to the development of language even in advanced classes.

B. *The Lord of the Rings Online*

Among the several Massive Multiplayer Online Role-playing Games (MMORPGs) available, we decided to work with *The Lord of the Rings Online* (LOTRO), a title which is free to play and loosely based on the homonymous work of J. R. R. Tolkien. As with all MMORPGs, the player creates a character and assumes a role in this fictional world, performing quests (Fig. 2) and uncovering the plot of the game. Since it is an online experience, the game sometimes requires the players to form groups in order to accomplish a common goal. Given that the standard language adopted by the players is English, LOTRO puts the player into a real communication environment, enabling communication with native speakers of English from different nationalities. In addition, the game features a storyline

that is faithful to the original, working with the language in an almost literary way.

Like other games exemplified, LOTRO can be related to the theories discussed in throughout this paper. The game works with multiple intelligences simultaneously, such as linguistic, needed to understand the plot and the storyline and to accomplish the tasks; logic, since the player must build a character in the most effective possible way; spatial/visual, as positioning and proper spatial planning are important in certain situations; and also interpersonal, given that the interaction among the players is required in games of this genre. As previously mentioned, the gameplay is set in an environment (input) where written and/or oral conversation is naturally used by players in a friendly and informal manner, which favors communication even between the most shy and introverted students. Therefore, Krashen's hypotheses can be related and applied to the game. In addition, the game takes place in one of the most popular and important fictional worlds ever created, which can certainly arouse interest and motivate students.

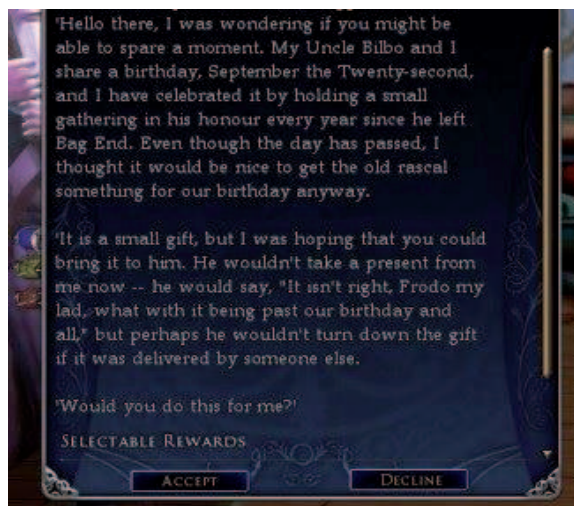


Figure 2. Example of quest in LOTRO

In terms of learning, LOTRO can work simultaneously with all language skills: *reading* is used to read the missions and menus, while *writing*, *speaking* and *listening* is required in communication among the players. The complex and well-structured language presented in the game allows players to get in contact with various topics taught during regular classes, and interaction with native speakers may address issues such as pronunciation and fluency in general. The most interesting way of using LOTRO in a classroom would be to play in a group (called *party* inside the game) that includes the teacher, so he/she can guide the students and ensure that they use only English to communicate.

C. *Scribblenauts*

Among the four games of the *Scribblenauts* series, which began in 2009, *Scribblenauts Unlimited* was selected due to the ease of access, since it is the only one available for the PC platform. The premise of *Scribblenauts Unlimited* is simple: you control a

character - Maxwell - who must go through the virtual world helping people and addressing their problems. These range from rescuing a cat from a tree to creating works of art for a museum. To solve the puzzle, the player has a single "weapon": his/her own creativity. By writing a word, the object/person/creature instantly appears on the screen. Thus, in the example of the kitten in the tree, the player can type *ladder* and use it to make the rescue. In this version of the game, you can also add adjectives to objects or existing people. Thus, in the same quest, the player could add the adjective *winged* to Maxwell and make him fly to reach the cat. The player could also type *fireman* and let the firefighter solve the case. The only limitations imposed by the game are regarding the use of profanity, obscene objects and copyrighted material. Other than this restriction, the player's creativity dictates how the puzzles are going to be solved.

Furthermore, Scribblenauts Unlimited falls within the proposed theories in the sense that the player interacts directly with the virtual environment, using his/her knowledge of English to solve the problems and progress in the game. Therefore, there is a proper and natural input, since the game always challenges the player to work with different words. Moreover, the created objects, as well as those already in the scenarios, may be used by the player in several ways, and the player can also check the names of the objects written on the screen. When selecting an object whose English spelling is unknown to the player, he/she will not only have contact with the written word, but will be able to use it in the environment, thus understanding its practical applications, which resemble those of the real world.

Consequently, we propose two different ways of using Scribblenauts Unlimited in a classroom. The first is to work in pairs and/or trios, as the fun factor of this game is not on controlling and performing actions directly with the character, but rather on using creativity to try to address problems in the most unexpected way. Thus, working with groups is not only feasible, since there would probably be no conflicts to decide who controls Maxwell, but also more productive, since students can discuss in English the best solution for a given puzzle. The second option, on the other hand, involves letting the teacher control the character in the game, while the students participate by giving the answers. In order to make the activity more interesting, once a certain word has been used, it should be written down and students may not use it again. In classrooms where competition is healthy, the teacher can divide students into teams to see who provides more solutions. It is also suggested that the students not only say what object/adjective he/she wants to use, but also how. In the example of the "ladder" mentioned above, the student should try to create a whole sentence, such as "Create a ladder and use it to rescue the cat", instead of just saying the word "ladder".

Given these considerations, the use of Scribblenauts Unlimited in a classroom would certainly motivate students, as it would make them use the

language in a fun and creative way. In addition, the game can be related to several intelligences in addition to linguistic intelligence, which would allow students with different interests and learning styles to feel motivated to engage in the activity. For example, it is necessary to use logic to solve the puzzles (logical-mathematical intelligence); by setting the students in pairs or small groups, their interpersonal intelligence will be at work; and, finally, the game requires the players to create mental images of the objects that they intend to use before they are actually created, which corresponds to the visual-spatial intelligence.

In short, this practice would allow the development of listening and speaking skills, as the progression in the game would take place via the interaction between players and/or students and teachers. It would also work with the reading skill, as each mission is presented textually. To a lesser extent, the writing skill would be developed as well, specifically with the spelling of the words used. Therefore, the language would be developed in several ways, but in an almost informal environment, where students are less vulnerable to the negative emotional factors described [13]. The game may also increase the intrinsic motivation of the students, as they will seek to improve their vocabulary to progress in the game. There is also the "socialization" referred to by Ushioda [20] as students participate actively and are responsible for the course of the activity, in addition to the reduction of the "gap" in the relationship between the teacher and the students. Therefore, we believe that Scribblenauts Unlimited is able not only to contribute to the learning of English but also to involve all the theoretical aspects previously mentioned.

IV. CONCLUSION

This paper aimed to interlace SLA and motivation theories with possible practical uses of video games in a classroom. It is important to stress that the suggestions presented have not been in fact tested or applied in any way, being merely initial thoughts regarding the use of the games selected based on personal gameplay experiences. The insertion of video games in EFL classrooms is currently a recurring topic in academic studies, though very few - to the extent of our knowledge - present practical ideas and applications of video games to help on language learning and teaching. Therefore, we believe that further studies need to directly explore methods and techniques of language development through video games, as well as verify the benefits and drawbacks of using this media in a learning environment. The games described in this paper - Scribblenauts Unlimited, Wario Ware Smooth Moves and The Lord of the Rings Online - seem to be good options to be worked with in a classroom, and an in-depth analysis of their uses might bring up some interesting results.

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