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Galvis Guerrero, Héctor Alejandro

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Using Video Game-Based Instruction in an EFL Program: Understanding the Power of Video Games in Education

El Uso de Video Juegos en el Aprendizaje de una Lengua Extranjera: El poder de Los Video Juegos en la Educación

Héctor Alejandro Galvis Guerrero

Profesor Asociado Universidad Libre
Profesor Catedrático Universidad Pedagógica Nacional
Bogotá, Colombia.
E-mail: ,hgalvis@pedagogica.edu.co,

Abstract

This small-scale action-research study examines the perceptions of four students in a military academy in Colombia undergoing the process of using a mainstream video game in their EFL classes instead of classic forms of instruction. The video game used served to approach EFL by means of language exploratory activities designed according to the context present in the video game and the course linguistic objectives. This study was conducted on the grounds that computer technology offers the possibility of enhancing EFL instruction by means of simulating and augmenting the target language context. The researcher's belief is that video games offer a learning environment closely related to students' experiences and preferences. Results from this study suggest that students were more entertained and attentive and demonstrated more engagement and disposition towards their English classes. Students also learned about matters related to the target language and culture, and were not only circumscribed to linguistic ones. Similarly, results from this study shed some light on the importance of offering access to technology to students before they advance to higher education that support video-gaming practices in the classroom.

Key words: Foreign language instruction, video game-based instruction, student engagement, use of video games in foreign language education.

Resumen

Este estudio a pequeña escala de investigación-acción analizó las percepciones de cuatro estudiantes en una institución de educación superior militar en Colombia en la cual se cambió los métodos tradicionales de enseñanza por la inclusión de un video jugar popular. Este video juego se utilizó con el fin de presentar el estudio del inglés como lengua extranjera a través de actividades exploratorias dentro del juego; dichas actividades se diseñaron teniendo en cuenta los objetivos lingüísticos del curso y el contexto presente en el video juego. Este estudio fue llevado a cabo bajo la premisa de que las herramientas tecnológicas ofrecen la posibilidad de mejorar la instrucción en lengua extranjera al aumentar y simular el contexto lingüístico de la lengua objetivo. El investigador actuó bajo la convicción de que los video juegos ofrecen un ambiente de aprendizaje más compatible con las experiencias y gustos de los estudiantes. Los resultados de este estudio sugieren que los estudiantes percibieron estar más entretenidos, atentos y demostraron mayor disposición hacia sus clases de inglés. De la misma forma, se observó que en este estudio se pudo enseñar aspecto no solo relacionados a la parte lingüística, sino también a otras áreas relevantes a la enseñanza de lenguas extranjeras. Finalmente, los resultados de este estudio destacan la importancia de tener acceso a las TICs en los primeros niveles de educación y cómo dicha instrucción apoya el uso de herramientas como las utilizadas durante el desarrollo de este estudio.

Palabras clave: Enseñanza de lengua extranjera, instrucción basada en el uso de video juegos, uso de video juegos en la enseñanza de lengua extranjera.

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Introduction

The use of computer technology has been presented to the academic community as a new world full of endless possibilities for enhanced language learning. Despite the potential offered by computer technology, many barriers still need to be overcome in order to enjoy the benefits of technology to the fullest in education. Some of the barriers identified thus far are: the role of teachers' beliefs negatively impacting the use (or lack thereof) of technology in the language classroom, first-order barriers (Ertmer, 2005), computer literacy, and curricular constraints (Wang & Huang, 2008; Galvis, in press). Bearing in mind the above considerations, the current state of computer technology has been entangled with many negative factors that raise important questions for both pre-service and in-service teachers and most of all for language program administrators. The following paper will relate the experience of using a popular video game in an EFL program of a military academy in Colombia. In the first section a definition of video games, their potential, and what has been done in this growing field will be presented. Section two will relate the steps undergone in order to include a video game in a traditional language curriculum. This section will also include students' perceptions from the classroom where this project was conducted. Finally, section four will expose areas of further research and critical points for language administrators, video game-based instruction (VGBI) researchers, and educators planning to implement video games in their classes.

Literature Review

The words video games and education may automatically trigger in the minds of some a strong discrepancy between two realms of society that do not appear to be fully compatible,

namely, popular culture and academia. In fact, significant critiques related to how computer technology, television, and the Internet have invaded individuals' lives seem to be growing (Bauerlein, 2009). While these critiques have a sound degree of validity, other scholars have opted to shift from the critical analysts approach to the technologists approach (Chapelle, 2003) in which the potential of technology is explored and tested to meet the needs of learners for the 21st century.

With this in mind, Squire (in press) has put in a nutshell a current technology advance not commonly used in education nor foreign language instruction. That is video games. Squire understands video games as serving entertainment purposes in the computer industry and that such forms of entertainment have been designed with profit and marketing interests rather than academic ones. Similarly, the author acknowledges the ambivalence of the research methods used in video games in education and the need to filter ideologies and particular interests, especially in video games. Gaming could be defined as a "social practice, meaning that it occurs at the intersection of people's goals, technological affordances, and social and cultural contexts." (p. 4). Similarly McFarlane and Kirriemuir (2004) define video games as a type of digitally designed and pre-programmed visual platforms available for one or more players that allow for user input and the flow of digital information.

In addition, Squire (in press) warns about the importance of fully understanding the impact of utilizing video games in education, especially when measuring results. That is, one cannot measure results used from video gaming practices in education against traditional measurement practices because one may be assessing different skills and needs. This discussion inevitably leads the author to forewarn about crucial changes that can be brought about by the use of digital cultures,



one of these changes being the shift of favoring print culture vs. visual culture; the latter has already been brought into question by Fairclough (2001) as well as by Bauerlein (2009).

Because of the innovative nature of video games and computer technology, Squire (in press) argues that one of the potential obstacles gaming practices will run into in the future is enrooted traditional structure in schools. By the same token, McFarlane and Kirriemuir (2004) assert that the heart of the issue of not including video games also resides in the lack of appropriateness of video games' content vs. curriculum content, lack of time affecting both teachers' familiarization with current video games and implementation of these video games in the classroom, and the presence of irrelevant content in video games. McFarlane and Kirriemuir state that the aforementioned factors have negatively impacted the inclusion of mainstream video games in schools. But as obscure, distant, and ignored the inclusion of video games currently is, Squire vigorously states that students themselves will easily acquire and access the technology due to its pervasiveness. The author also notes that this creates not only a need for schools to stop ignoring technology itself, but also to cater to new literacy needs students of the 21st century have (Cummins, Brown & Sayers, 2007), and that teachers oftentimes are not aware of.

Video Games

The current, entertainment concept of *video games* is generic and oversees substantial developments during the last two decades in both education and entertainment. McFarlane and Kirriemuir (2004) have distinguished between what they refer to as mainstream digital games and learning-oriented games (edutainment). The former is the entertainment and profit-oriented type of gaming which is produced by major entertainment companies. These types of video games usually run under specific and

well-known gaming consoles such as Nintendo™, Playstation™, and X-box™, among others. The objectives of mainstream games are marketing-driven and not designed for education, whereas learning-oriented games have adapted the original idea of video games in order to present content in an enjoyable manner.

With this difference in mind, McFarlane and Kirriemuir (2004) have reported that despite efforts made by developers of edutainment software, traditional video games prevail in individual's preferences due to their superiority in visual content and plot content, as well as the ability to recreate fantasy, challenge players, and foster curiosity (Malone, as cited in McFarlane & Kirriemuir, 2004). What is more, edutainment has been criticized because of its predictability, predisposition to learning (because learners know playing is leading to learning), and monotony in presenting content. Another weakness has to do with the simplistic platforms used to develop edutainment when compared with those used to develop mainstream video games. A final weakness has to do with the obvious teaching procedures that according to McFarlane and Kirriemuir may make users feel patronized.

In the midst of the debate as to which type of gaming is better for education, Csikszentmihalyi (1990) has provided a strong reason why mainstream video gaming may represent a better choice. This has to do with the notion of *flow*. According to McFarlane and Kirriemuir (2004), the notion of flow has found agreement academically in that flow is the level of engagement that an individual reaches while doing an activity in such a way that other things are dismissed. While flow appears to be an innovative affordance provided by video games, it needs to occur under specific conditions. According to Malone (as cited in McFarlane & Kirriemuir, 2004) conditions inducing flow should be as follows:

- Activities that adjust the level of difficulty desired by the player



- Perceptual saliency in order to avoid interference with other external stimuli
- Game performance assessment (how well a player is doing)
- Feedback on player performance
- Varied assortment of challenges

A final type of video games is reviewed by Thorne, Black, and Sykes (2009). These video games are referred to as Massively Multiplayer Online Games (MMO). According to Thorne, Black, and Sykes, these video games are commercially designed and allow for large numbers of people to play online simultaneously, while interacting and reaching game specific objectives. It has been documented that individuals spend significant amounts of time playing this type of video game because of MMO's complex and challenging nature. Interaction among players is inevitable, although solo playing modes are also available.

Despite the advantages of using video games and the major relevance games have in people's lives, McFarlane and Kirremuir (2004), Gee (2003), and Squire (in press) note that traditional conceptions of literacy, school cultures, and some first order barriers such as licensing and software purchasing are key issues to be addressed in the quest for video game inclusion in schools (McFarlane & Kirremuir 2004).

The Ignored Power of Video Games

Squire and Klopfer's (2007) research is probably one of the most compelling in providing evidence as to how augmented reality (i.e. the type of reality that is expanded virtually based on real-life contexts\locations) allows students to formulate hypothesis they would not do in the real world due to dangerous situations or unavailable resources. Squire and Klopfer's research relates how science students from three universities and a high school used a pre-designed video game called *Environmental Detectives* in order to

solve a hypothetical chemical spill on campus. The rationale of this study was to promote the appropriate development of environmental research within geographical, social, and time constraints, something not plausible in real life due to the different agents that could be at stake because of the manipulation of such variables. Likewise, the researchers intended to present science to the participants as a set of practical procedures with realistic applications instead of isolated ones.

Results from this study suggest that student's engagement may have increased by the methodological approach used by the researchers in presenting video games as safe zones where new solutions to problems can be tried out by the classical trial and error approach, although failure in this case is not necessarily negative. Another finding relates to how *Environmental Detectives* created the need for scaffolding as students made progress with solving the hypothetical chemical spill. Such scaffolding in this study was obtained mainly from classmates and instructors. Finally, it was revealed in this study that participants relied, for the most part, on previous acquired knowledge in order to solve the environmental problem created by *Environmental Detectives*.

A similar study that sought to understand the role of video games in education was conducted by Squire, Giovanetto, Devane, and Durga (2005). This study was conducted in an after school program using Civilization III, a video game that allows players to manage different civilizations and play with several variables throughout history. The sessions were conducted in a way in which students could be informed about what to do before they played. Also, at the end of each session researchers had a session with students in which they shared their advances in the game.

Results suggest that learners using Civilization III were engaged in collaborative practices in which they sought scaffolding either from their instructors or directly from classmates. Similarly, researchers found that male students were more



adept at multiplayer gaming practices. Another gender-related finding is that male students tended to be more individualistic, whereas female students tended to work more in groups. Some of the participants even went as far as expanding their video gaming experience into their homes in order to plan ahead the strategies to be used later on during the after-school hours they were allowed to play. It was not specified in Squire, et al's. (2005) study whether these students were male or female. Finally, another finding is related to student's vocabulary boost experienced because of using Civilization III. Participants were able (especially those more skillful in using Civilization III) to identify and use vocabulary related to history and the military.

Another proponent for the potential of video games is Gee (2003). He bases his arguments for video games in the fact that literacy does not involve only the traditional code-decoding classically taught, but also implies the decoding of written or spoken texts (Fairclough, 2001) *within* specific situations and specific domains. Based on the above, Gee introduces the concept of semiotic domains in which individuals need to contextualize and build meaning depending on several contextual and meaning related situations and cues. For instance, words change their meaning depending on the domains they are used in (i.e. dunking in basketball and dunkin' doughnuts when referring to the restaurant) is an example of how Gee posits his theory on semiotic domains. Gee goes on to say that video games are potential environments for individuals to participate in experiences that require them to process and mediate between various meanings and domains. Akin in thought to Gee, Laurel (as cited in McFarlane & Kirremuir, 2004) argues that learning through experience in multi-sensory environments enhances information input and this represents a better choice compared with the traditional and well-known communication of facts.

The studies above relate to the use either of edutainment or mainstream video games in education. However, none of these studies have documented the use of MMOs. With respect to these, Peña and Hancock (as cited in Thorne, Black, and Sykes, 2009) have analyzed communication patterns among players while they are using MMOs. The findings from this study have supported the social orientation under which individuals approach technology (Dimaggio, Hargittai, Neuman, & Robinson, 2005) because of the significant language production in various forms taking place among players. Although the findings from this study were related to communication and interaction, the acquisition of L2 was not analyzed. Regarding language acquisition, Thorne and Sykes acknowledge the fact that research analyzing L2 acquisition and the use of video games is rather limited.

Finally, Thorne (2008) exemplifies how online interaction using video games such as The World of Warcraft allows individuals to interact multilingually, develop opportunities for intercultural communication, and even promotes the desire to learn languages other than English. In an excerpt taken from a conversation between two individuals from different countries using The World of Warcraft, Thorne studied the instances in which these individuals cooperated mutually to negotiate meaning, provided corrections to each other and conducted mutual work while playing. Thorne explains that many of these instances that are sought in the language classroom can actually take place by the use of built-in synchronous and asynchronous communication tools embedded in games such as The World of Warcraft.

Methodology

According to Burns (1999), this study qualifies as an action research study in that it was locally conducted and was small-scale. Further, this study originated from the local needs of



engaging students in learning English despite the challenging conditions they must face when attending classes. The context where this study was conducted is a prestigious military academy in which two main particularities were identified after an exploration process conducted on the behalf of the researcher. The first particularity is that participants in this study have two types of responsibilities, namely, academic and military. As future army officers, the amount of work in both the military and the academic domain is overwhelming. In fact, students at the military academy usually take their undergraduate classes very early in the morning and continue into the afternoon with military instruction accompanied by physical training. In this order of ideas, it is not uncommon to see students dozing off during class time due to the excessive amount of academic and military work they are held accountable for. Another particularity is that students must study a foreign language, in most cases English. Therefore, the conditions are less than favorable for language learning. Also absenteeism is usually high because of military duties that interfere with academic work. In response to these factors affecting language learning (military responsibilities, absenteeism, and mandatory language learning), the department of languages at this military academy constantly reminds teachers about the importance of having classes that are appealing, dynamic, and most of all communicative.

Although the conditions for language learning are challenging given the aforementioned factors, not everything is as difficult as it seems to be. The school has a solid technology infrastructure that allows teachers to explore the use of technology smoothly and with few restrictions. In fact, the school has four multimedia laboratories and widespread Internet access in the buildings where classes take place. Furthermore, it is school policy that each freshman student must have a laptop with him or her at all times. Therefore, access to

technology is not limited but rather widespread throughout the school. Another characteristic in this context is that the military academy has recently switched from a men-only policy to a co-ed policy. Consequently, it is not uncommon to see women attending classes, although this only applies to freshmen and sophomore students as the co-ed policy is fairly new.

After careful observation of student behavior and interests during the first weeks of the semester, it was evident that students were inclined to use their laptops to listen to music, surf the internet, and play video games, especially the type related to military content. Although communicative activities were implemented during the first week of classes, students' lack of engagement was evident and oftentimes interfered with the successful development of such activities due to the workload these students had. Therefore, the researcher proposed the use of a video game named *Grand Theft Auto San Andreas* (GTA SA) to be used during their English class instead of using the textbook suggested by the department. All students accepted and the following research questions emerged:

- What are students' perceptions of using *Grand Theft Auto San Andreas* in English class as a tool for instruction?
- How can *Grand Theft Auto San Andreas* be adapted to serve the purpose of learning English?

After framing the main research questions, a couple of two-hour sessions were used to help students install the game and assist them with technical questions they had. Some students' computers did not meet the minimum requirements to run the game, so these students had to share a computer; however, there were very few of these cases in the two classes where this video game project was implemented. After installation of the game, the teacher designed three language exploratory activities to be used



while playing. The main motivation to design this type of activity was to avoid getting far from the game's original content. In fact, GTA SA is a video game in which progress is accomplished by conducting several in-game accomplishments. It is important to review at this point some of the most general characteristics regarding this video game's plot especially for those readers who are unfamiliar with it. GTA SA is the story of an Afro-American man who comes back to his hometown called *Los Santos*; Los Santos is the equivalent of the city of *Los Angeles, California* in the United States. The main character has to deal with police corruption, racism, gang wars, and other stereotypical factors of contemporary American society. The context depicted in the game gives the user freedom of driving (or hi-jacking) cars, modifying them, and taking different societal roles such as police officer, taxi driver, and pizza man, among others. These roles are parallel to the game's plot, and differ from its initial storyline which is mostly about how the character manages to put his torn-gang together again. It is of utmost importance to acknowledge that GTA SA's content has come into both serious academic discussions and interesting research studies (Devane & Squire, 2008).

In order to make a coherent liaison between linguistic matter, syllabus content, course objectives, and GTA, the researcher designed language exploratory activities aiming at familiarizing and exposing students (implicitly) to the course objectives using the game as an entertaining pretext. In this way, three language exploratory activities were designed. During the first activity students had to explore the different places found in the game and the professions they could see on the streets of Los Santos. Activity 1 (See Figure 2) also had students describe physically the main character of the story and find out which American cities/states the game plot simulated. Activity 2 had students explore the different types of music available in the

game radio stations and choose their favorite. Activity 3 was preceded by a focus-on-form session (prepositions and ING forms) and asked students about the location of different places in the game such as a downtown hospital, a police station, a jail, and a pawnshop, among others. This activity also had students describe randomly in-game characters' progressive actions as shown at different instances during game play.

Instruments for Data Collection

Data collection was obtained by means of field notes, a survey, and a semi-structured recorded interview with four participating students. These instruments were chosen because they appeared to be the most time efficient and practical. As explained earlier, this action research study was conducted as an alternative to an already established curriculum, and as a consequence of this, there were some time constraints from the innovation. It is also worth mentioning that other types of observational techniques such as video recording and participant photographs were not an option due to extreme safety measures adopted by the board of the military academy based on the grounds that information such as student photographs, home addresses, or phone numbers may put at stake students' personal safety and even their own life if revealed to the public. Thus, other non-observational techniques such as biographies and life stories were not an option in this study.

Since the inclusion of video games was in an exploratory stage, the researcher decided to rely heavily on field notes as a method for analyzing different phenomena that took place as the students began using GTA SA. These field notes were taken from the very beginning of the project until completion. When developing mission two, a general survey was given to students asking them how they liked using GTA SA in class, their perceptions, and their desire to continue the game in class. This survey was



crucial to this project because it allowed the researcher to see if the assumption of using video games as an alternative for language instruction was actually successful and was worth using for the remainder of the semester. Finally the participating candidates were interviewed by their teacher about their different perceptions on GTA SA. The participating students were four students, three men and one woman. After being chosen, students participated in developing the proposed activities in class. Their perceptions about using GTA SA in English class will appear in the results section, and these students will be referred to as ST1M, ST2M, ST3M, and ST4F.

Results

During the first sessions of class, it was observed that students spent a significant amount of time familiarizing themselves with the game controls, the game context, and most important, developing the activities assigned by the teacher. At various instances, the teacher suggested using two screens while playing, one screen for reference and the other for game use. The main idea of this work organization pattern was to motivate students to instantly clarify any doubts or questions they had as they explored GTA SA. The main online resources proposed by the teacher were: <http://www.wordreference.com>, images.google.com and <http://www.thegtaplace.com>. (As shown in Figure 1)

Figure 1. Work pattern suggested to students.



Figure 1. Students worked using two computers. One computer provided in-task scaffolding as students played GTA SA in their laptops.

Throughout the semester it was observed that students constantly resorted to the online resources suggested in order to clarify game-related questions. In fact, in mission 1, students had to find the equivalent of the game's simulated

cities to those existent in real life. This had most students searching for geographical information about the U.S. including information such as state locations, populations, and ethnic distribution. For instance, in one class it was explained to



students that California is a state with one of the largest percentages of Hispanic people in the U.S. Students could verify this because some of the stores and places in the game have Spanish names. In addition, some character in the game utter words in Spanish; students had a chance to verify all this information by using free online

encyclopedias such as <http://www.wikipedia.org>. There were several of these instances documented as students played GTA SA, but for the sake of conciseness Table 1 will outline the most important categories obtained after using the classical color-coding technique in order to obtain overall dominant categories.

Table 1. Categories obtained from field notes during a one-semester period
Once students finished the first activity assigned, the teacher surveyed students by asking them if

CATEGORY
Playing GTA SA as a form of obtaining engagement
Playing GTA SA as a form of obtaining attentiveness
Playing GTA SA as a form of finding entertainment

they desired to further use GTA SA. Most of the students expressed their willingness to do so, but a group of female students and a male student expressed their concerns regarding using GTA SA in class. According to these students, GTA SA was difficult to control and to use and they wanted to explore traditional language learning activities. Many were not interesting in gaming, nor did they feel they had the ability to use video games. These

students were given extra assignments different from the in-class gaming.

Finally, the participating students were asked to provide feedback on their gaming experience in an open interview. This interview aimed at exploring students' final perceptions after one semester of using GTA SA in class. The findings from the four interviews are summarized in Table 2.

Table 2. Participating students' perceptions on the use of GTA SA in English class after one semester (obtained from oral interview).

PERCEPTIONAL CATEGORY	STUDENT
Easier way to learn English	ST1M
in-task scaffolding could be obtained	ST1M
Realistic application	ST1M ST2M
Vocabulary gains	ST1M ST2M ST3M
Extended experience outside classroom	ST1M
Become more engaged\ attentive	ST1M ST2M
Fun	ST2M ST3M
Always something new to do	ST2M
Learning contributions	ST2M



Boring	ST4F
Better than previous instruction	ST1M
No teaching\learning purpose	ST4F
Monotonous activity	ST4F

After observing the categories obtained from both the researcher's field notes and the oral interview, the categories presented in Table 3 were found to be similar in that GTA SA made students more engaged, attentive, and their

classes more enjoyable. The rest of the categories found during the oral interview did not replicate the researchers' field notes. Nevertheless, some of the most relevant student's comment will be summarized in Table 3

Table 3. Oral Interview responses regarding students' experience using GTA SA after a one-semester period.

STUDENT / INTERVIEW QUESTION ST1	STUDENT RESPONSE
¿Cómo ha percibido el desarrollo de sus clases de inglés con el uso video juegos?	"Para mi ha sido como mejor porque, digamos el entender, entiendo un poquito más, y además el profesor nos va explicando todo lo que vamos haciendo en la clase, y además los talleres que el profesor nos pone hacia el el juego los aplicamos...., digamos es como más aplicable y además estamos entendiendo más. El profesor nos digo que si queríamos jugar tenía que ser en inglés y además, entonces ya uno escucha, hay palabras que uno escucha como frecuentemente entonces uno las escucha y entonces uno ya sabe más o menos que es..."
English: What's your opinion about the use of video games in English class?	For me it's been better, because I understand more, plus our teacher explains to us what we have to do in class. Also, the activities that we do actually have an application and you understand better. Our teacher said that if we wanted to play GTA SA, it had to be in English, so frequently you hear words and you know more or less what they mean..."



¿qué diferencia hay entre estas actividades en esta clase y las actividades que se realizaban antes?	“La diferencia es que sabía que era clase de clase inglés, y uno decía siempre iba a tener la profesora que le iba a estar diciéndole lo mismo y uno le decía porque está mal y nunca le daban corrección a uno. No había la confianza como con el profesor, uno no hablaba inglés, uno solo se dedicaba a escribir cosas que hay veces no sabía ni que escribía. Y cambiaron las cosas, la clase ya no es monótona, todos los días se va a hacer algo diferente.
English: What's the difference between these activities (playing GTA SA) in this class and the kind of activities you used to do before?	The difference is that you already knew it was English class, and that you would have a teacher telling you the same time and again, you were never given any explanation as to why something was right or wrong. There was no confidence between the teacher and students. Also, you wouldn't speak English at all. You would just write things that you didn't even know what they meant. So things have changed, English class is no longer monotonous, and there's something new to do every day.

By synthesizing all the information provided in this section, one could answer the first research question of this study by revisiting students' answers during the interview and the researcher's field notes. Is GTA SA entertaining for students and a better teaching resource for keeping students attentive during class, and consequently more engaged? There were other categories found during the interview that could answer this question, but unfortunately such categories could not be matched with any category obtained from the researchers' field notes. Therefore, these could not be triangulated.

In order to answer the second research question, one could state that GTA SA could

be adapted to language education by means of designing language exploratory activities (as shown in Figure 2) that lead students to observe the game context as though this game were an extension of their own real-life. In other words, GTA SA could serve as a means of an augmented reality in which students can freely explore a target context that is not possible to explore in foreign language instruction. In addition, students can obtain in-task scaffolding (Willis, 1996) from free reference websites and their instructor in order to develop exploratory activities with the purpose of learning.



Figure 2. Activities sample

To do in activity 1:

1. Who's the main character in the story?
2. In what city does the story happen?
3. In what country does the story happen?
4. There's video at the beginning of the game, what do you think about the police officers in this video?
- Explore the neighborhood where C.J. lives and answer the following questions:
5. What kind of places can you identify in the neighborhood where the main character of the game lives?
6. Is this neighborhood a high-class neighborhood or a low-class neighborhood?
7. Describe Carl's friends

Figure 2. This is a sample of how the researcher designed exploratory activities to adapt class contents to the game's context.

Discussion

During the first observed classes, students' engagement when doing the language exploratory activities assigned was astounding. Students' preference for GTA SA over their previous classes could be explained by the fact that such classes were *for the most part* whiteboard/book-oriented. In this way, a drastic change from two opposite types of instruction could have triggered a preference for GTA SA at the time of study. By the same token, class observations led to the conclusion that students' engagement was beneficial for some students as these students were more attentive and more engaged in class. The interviews conducted with two of the four participating students (ST1M, ST2M) reiterated that being tired and dozing off were no longer a problem for some students. This was also found as a dominant category in the researcher's field notes.

This inevitably leads to pondering about the effectiveness of the use of video games not only in making EFL classes more fun, but also to help older learners who struggle with work timetables

to study a foreign language. In the researcher's experience in language education, a noticeable struggle has been observed among professionals from other fields who are in extreme need to learn English as a job requirement (or obligation) in order to meet the requirements of a growing local economy and its internationalization. However, many times external responsibilities interfere with such language learning objectives in ways that lead to desertion and frustration. Since conditions for language learning are not ideal in many cases in Colombia, one could foresee some hope to solve such problems with the power of video games that can be strategically used in language instruction as illustrated in this study.

Another observed behavior is related to students' in-task scaffolding (Willis, 1996). As demonstrated by Squire and Klopfer's (2007) and Squire et al's (2005) research, students obtained scaffolding from different sources when using video games in order to accomplish in-game objectives. In this study, students mainly utilized reference websites and teacher's help as means of scaffolding to develop tasks. While this is an interesting and beneficial behavior, the information



students could have obtained from GTA SA or any of the other websites used for reference was at stake because there were no opportunities to educate students in the use of critical thinking skills. This becomes more important as it has been demonstrated that students *a-priori* experiences to video games help construct meaning (Devane & Squire, 2008). It is educators responsibility to filter such meaning construction in ways that lead to better understanding among cultures instead of segregation. as depicted in GTA SA. The latter should not be exorcised, however, because of the stereotypical roles, violence, and ethnic segregation present in its content. On the contrary, such hypothetical representations should be treated as pretexts to educate learners in other areas that are not circumscribed to linguistic matters, but areas that intertwine with intercultural communication (Thorne, 2008), social studies, and even geographical knowledge (as done in this study). All of these tasks are possible by the use of the augmented reality of video games such as GTA SA.

When revisiting the second category obtained in the results section, that is, GTA perceived as a form of entertainment, one can find interesting connections between the environment GTA SA provided and the casual activities students were involved in due to such exposure. As illustrated above, students were using external sources in order to solve different game questions posed by the researcher. In addition, such use of external sources resulted in addressing other relevant topics to language teaching. These were initially unplanned, and included those questions related to geography and ethnic information. As a consequence, one can see mainstream video games such as GTA SA not only provide mere entertainment, but also bring about situations for learning that challenge traditional ways of teaching. The situations may become relevant as students submerge themselves into solving

simple exploratory questions such as the ones assigned to students and shown elsewhere in this document.

The following area for reflection is related to students' experiences and how these need to be earnestly considered when using computer technology, and one could add, video games. For this purpose, revisiting the answers provided by ST3M and ST4F serves to demonstrate that their background in video gaming differed considerably; as ST3M had significant video-gaming experience, ST4F had none. These students were not chosen in order to present a biased gender disadvantage when using video games; in fact, it was not revealed that such a tremendous gap in their gaming background was existent until the end of this study. One could also observe from the experiences of ST3M and ST4F that previous successful academic achievement in language learning (as in the case of ST4F) does not necessarily result in successful use of technology or video games. Pre-service teachers may carefully need to consider the results in this study since one could sacrifice successful language learners at the cost of using technology that may not necessarily be compatible with their background experiences.

When revising gender behavior and attitudes, it was observed that all the women participating in this study and one male student decided to isolate themselves from the class and the four students analyzed in order to work in a small group doing different assignments. These students had similar opinions to those of ST4F regarding video games. They thought of these as boring, monotonous, or simply they perceived themselves as not being capable of using video games at all. These students preferred traditional language learning activities. A similar finding was revealed in Squire et al's (2005) study in which male students worked individually, whereas female students worked in groups when using



video games. Likewise, Venkatesh et al.'s (2003) study shed some light on men demonstrating to be more adept at technology than women. As a consequence, one could assert that gender variables have become an important object of research when using technology and video games. What is particularly curious about such variables is that based on the studies previously reviewed, these variables have become cross-culturally similar, except that in this study there was a male student in the group of students who opted to work on non-video game related activities.

Continuing in this vein, background experiences and gender have been thus far discussed, but not their relationship to any of the categories found in the results section. It appears that contrary to those students who benefited in terms of learning from the entertainment they found from GTA, the group of students who resorted to traditional activities did not have a chance to access any information beyond linguistic input. Because most students were in their first years of higher education, one inevitably wonders if previous educational experience, especially related to primary and high school, allowed these students to access any type of technologies that could have supported students' skills to use GTA SA. It is noteworthy to highlight that one of the students in this group claimed to be unfamiliar with the use of video games. One also wonders if the digital divide posed by the access to technology is an aspect to consider in the social-related aspects of education. As a final note, any possible interpretation related to gender and the use of video games may be overshadowed by the social aspects hereby mentioned without neglecting that gender is a social construction.

A final aspect observed after having interviewed students was that exposure to authentic language and development of language exploratory activities by means of GTA SA

apparently resulted in vocabulary gains for some. This raises important questions regarding Second Language Acquisition, the use and exposure to augmented realities, how such pseudo-vocabulary gains are significant and if they represent any learning in the long run. If a connecting link exists between the areas just mentioned, then educators have important research questions to address in understanding the unknown potential of video games for language learning. But above all, the effects of engagement offered by video games must be researched more thoroughly, as found in the third category in the results section. Vocabulary learning is not something new. Squire et al. (2005) similarly reported vocabulary gains in their study when using video games with highschoolers in an after-school program in the midwestern United States. Another noteworthy aspect is that only ST1M reported that using GTA SA helped in the ability of extracting information from a type of augmented reality (i.e. GTA SA) and using linguistic information from such reality to adapt it to real life. As shown earlier, ST1M reported being able to expand his video game experience into his real life. The way ST1M expanded his experience was by extracting words from the game in order to tease his classmates outside class. This finding has particular relevance because one can observe how this student attempts to extract information from the game in order to potentially build and complement an unexplored identity in real life.

Conclusions

Based on the presented results, one could state that the use of GTA SA in the context of a military academy was perceived as a better way of teaching English that helped some of the interviewed students be more attentive and engaged in class. One could observe that by having manipulated the traditional form of instruction, the researcher in this study obtained



better student disposition towards learning the English language after one semester, even though the transition from a prescribed curriculum to a video game-oriented one was rather tedious, especially when going against curriculum objectives and deadlines.

Regarding students' perceptions, one could observe from the results section that not all of the students conceived the use of video games as an innovative form for language instruction. The promise made by the use of computer technology and video games must be carefully reconsidered, especially when successful language learners, as in the case of ST4F in this study, do not perceive the use of video games as necessarily better for language instruction. This finding has shed some light onto the risks that a technologist view may have when using technology with successful language learners who do not consider the use of technology necessary for their language learning process.

All in all, the potential of video games has a long path ahead in language learning. From the results and the studies cited here, one can observe that the state of research in video games is *not* at an infant stage. On the contrary, this research is constituting itself into a growing enterprise. The documented studies cited throughout this paper have shown that the use of video games is, in fact, associated with better student engagement and vocabulary gains among other benefits. It is expected that in the years to come studies like this will continue to pave the path for emancipation from traditional curricular organization towards the future of education. It was observed from this study and from previous research (Galvis, in press) that curricular organization is posing a significant obstacle and a time constraint variable (Yang and Huang, 2008) for teachers to implement innovative ideas such as the use of technology and VGBI. Language program administrators must acknowledge that curriculum organization does not allow for emerging practices such as

VGBI to take place, and that in-service teachers must account for other responsibilities that take them away from conducting studies similar to the study in this document. Therefore, important questions arise for educators, administrators, and the academic community regarding the inclusion of VGBI for foreign language learning. Fears, institutional beliefs and little support should be areas of concern for future studies examining VGBI. Not to mention that "curricular innovations in language teaching have called into question dominant curriculum frameworks" (Norton Pierce, 2000, p. 138).

Further Research

The use of video games in this study was mainly conducted by means of assigning exploratory activities without ignoring that most students were true beginners when they participated. Future studies in which participants are at a more advanced language learning stage could attempt to expand video-gaming experiences beyond the classroom by means of communicative activities either synchronously or asynchronously, as done in Thorne's (2008) study. These studies could even attempt to explore language use and gains by having participants partake in the development of virtual communities (Rheingold, 1993) and form communities of practice (Lave and Wenger, 1991) in which language use can be evidenced and ultimately studied in order to understand the promises of technology and the Internet for language acquisition.

Another area for potential research would be to examine the implications of VGBI in depth for foreign language instruction. Such research could examine the benefits and implications of VGBI, the importance and benefits of simulating a more tangible and accessible context for language learning and how such context represents economic gains and more efficient learning. This process has been notoriously known as being long



and frustrating for some, that is, the process of learning a foreign language devoid of its context. VGBI could be conceived as an enhanced type of instruction that caters not only to linguistic needs, but also to a language context not present in traditional foreign language instruction that enables better student disposition as demonstrated in this study. Finally, it is worth mentioning that the role of a context for vocabulary acquisition as explained elsewhere may enable video games and VGBI as plausible forms of language instruction. These types of instruction challenge traditional language teaching by giving learners access to simulated yet more tangible and realistic contexts that may benefit and better support L2 vocabulary acquisition.

Future research could also benefit from understanding the relationship between augmented realities, the importance of simulated contexts, and incidental language learning, to see to what extent such relationships represent a better type of instruction, especially in learning a foreign language. Equally important, future studies of video games as means of language instruction should explore students' identities and understand these in order to measure how such identities can be adapted to (or complement) their second language identity for enhanced language learning. Such manipulation of variables inevitably raises ethical questions that must be addressed as well.

Leaving instruction aside, other variables have remained inconclusive in this study, one of them being gender. Future research using video games and computer technology should tap into what socio-economic (Venkatesh et al., 2003) and educational factors affect students' decision, likes, and dislikes toward the use of technology. These inquiries unavoidably lead to wondering why women and men tend to use computer technology differently as illustrated by Venkatesh et al. Another possible way of understanding

gender differences when using technology\video games could be obtained by examining students' previous beliefs, expectations, motivations, and learning styles as done by Chapelle and Jamieson (1986).

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THE AUTHOR

HECTOR ALEJANDRO GALVIS holds a B.A in Modern Languages (English and French) from Universidad Pedagógica Nacional, and an M.A. in TESOL\Applied Linguistics from the University of Northern Iowa. He's currently working at Universidad Libre where he teaches undergraduate courses in TESOL\English and assists undergraduate and graduate students with thesis writing. He also teaches courses in ELT and Technology at Universidad Pedagógica Nacional".

