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Laying the Foundations for Video-Game Based Language Instruction for the Teaching of EFL

Estableciendo las bases para una metodología de enseñanza de lengua extranjera a partir del uso de video juegos*

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This paper introduces video-game based language instruction as a teaching approach catering to the different socio-economic and learning needs of English as a Foreign Language students. First, this paper reviews statistical data revealing the low participation of Colombian students in English as a second language programs abroad (U.S. context especially). This paper also provides solid reasons why the use of video games in education and foreign language education is justified. Additionally, this paper reviews second language acquisition theoretical foundations that provide the rationale for adapting video-game based language instruction in light of important second language acquisition constructs such as culture and identity, among others. Finally, this document provides options for further research to construct and test the efficacy of video-game based language instruction while simultaneously leaving it open for collaborative contributions.

Key words: English (foreign language), foreign language learning, information and communication technologies, second language instruction, video-game based language instruction.

Este documento presenta la enseñanza de idiomas basada en video juegos. Inicialmente, se hace un recorrido del aprendizaje del inglés y el acceso a sus contextos reales (especialmente la participación de estudiantes colombianos en programas de inglés como segunda lengua en EEUU). Así, se comienza a conectar conceptos del campo de la adquisición de una segunda lengua con la iniciativa de la enseñanza de idiomas basada en video juegos. Sepueden apreciar conceptos como la cultura y la identidad lingüística

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entre otros. Por último, este documento presenta nuevas opciones de investigación relacionadas con el uso, la implementación y la efectividad de este tipo de metodología y su futuro.

Palabras clave: aprendizaje de una lengua extranjera, inglés (lengua extranjera), instrucción en segunda lengua guiada por video juegos, tecnologías de la información y la comunicación.

Introduction

The advent of computer technology, multimedia, and the Internet has brought about significant societal changes, some of which education has been rather reticent to incorporate (Dretzin & Rushkoff, 2010). As different types of technologies evolve at an unreachable pace, so does individuals' interest in catching up with these, and academic environments are not exempt from this (Dretzin & Rushkoff, 2010). Some of these technologies are video games, roughly defined as simulation technologies that allow users to carry out different purposes in virtual realities as done in real life. In fact, Kirriemuir and McFarlane (2004) review two broad dividing categories of video games, namely, mainstream video games and *Edutainment* (video games created for educational purposes).

Despite the existence of video games specifically designed for education, Kirriemuir and McFarlane (2004) forewarn that it is precisely their counterpart (i.e., mainstream video games), which rank as individuals' favorites. This divergence of interests puts education and entertainment on two opposite sides of the scale. On the one hand, individuals, as reported by Kirriemuir and McFarlane and Mitchell and Savill-Smith (2004), long to play video games at all times, and on the other hand of the scale, many or some educational environments hardly allow for the inclusion of any type of technology, let alone video games (Galvis, 2011a, 2011b).

Together with video games comes virtual reality, a term stemming from a more general category in engineering called *virtual prototyping*. Virtual reality is particularly well-known because it uses real-life objects and computerizes them in ways that such objects become tridimensional in computer-generated environments resembling their counterparts in real life. In fact Ma, Gausemeier, Fan, and Grafe (2011) explain how virtual reality makes use of real life objects in order to facilitate the exploration of such objects' functions; sometimes such manipulation is not an option in real life (e.g. handling weapons, driving cars at high speed, controlling a spaceship to go to the moon). In mainstream video games, it is not uncommon to see the representations of large cities, their landmarks, and streets (usually U.S. cities) such as Los Angeles and New York with titles such as *Grand Theft Auto*, and even international cities and their airports in video games such as *Microsoft Flight Simulator*.

A final type of technology available in the world of video games is the concept of *augmented realities*. Squire and Klopfer (2007) refer to augmented realities as the type of virtual simulation

by means of a video game in which users can manipulate reality. For instance, in Squire and Klopfer's research, augmented realities were used in order to allow students to simulate situations that could happen in real life. Such situations were impossible to recreate in real life, therefore, augmented realities came in handy when learners had to simulate the spread of an environmental risk they had to control. With this in mind, augmented realities can be defined as extensions of real life by means of computer technology which allows users to recreate dangerous or unfeasible situations in a virtually-controlled environment.

In light of the discussion above, three questions emerge: Can video games be included in education, specifically speaking, language education? What would be the advantages in the use of video games vs. traditional ways of teaching English as a foreign language (EFL), and finally, what is the academic rationale to justify a methodological inclusion of this kind? The first question may find some answers in Squire and Klopfer's (2007) research in which video games were used for environmental education. Other examples of video games used in education and foreign language education can be found in Anderson, Reynolds, Yeh, and Huang (2008); Papastergiou (2009); Yang, Chen, and Jeng (2010); and Yip and Kwan (2006). Based on these studies, one can answer the first question and go so far as to state that it is completely feasible to include video games in education. The following section will consider other aspects surrounding language learning and the importance of video game based language instruction (VGBLI), particularly in countries like Colombia where English is taught as a foreign language in the midst of economic challenges that hinder students from accessing the target culture and its peoples in most, if not all, cases.

Why Video-Game Based Language Instruction?

The Economic Aspect of Learning Another Language

Second language acquisition (SLA) research has demonstrated that contextual and natural contact with a second language devoid of explicit instruction does not necessarily result in language acquisition (Dörnyei, 2008). As if this were not enough, variables such as those of age of learning (AOL) and length of residence (LOR) are decisive in what is known today as partial acquisition. For instance, in studies examining immigrants' language acquisition, Oyama, Patkewski, Johnson, and Newport (as cited in Singleton & Ryan, 2004) have concurred in that early AOL results in better language acquisition. Similarly, reported cases of individuals who have lived a lifetime in an English-speaking country, and yet have not acquired English, nor do they understand it are commonplace. Given this, one observes language contact and lack of instruction ineffective in SLA (Dörnyei, 2008).

As an alternative to mere language exposure which has a tendency to be ineffective in terms of language acquisition speaking, various universities worldwide are offering English as

a second language (ESL) immersion programs for individuals wishing to profit from their experience abroad while improving their language skills through formal instruction. These programs are the most ideal goal for language acquisition (Dörnyei, 2008) in that they provide both real exposure with the target language and invaluable intercultural experiences. Unfortunately, in countries like Colombia and many others, the number of people who wish to study English using ESL abroad programs seems to be higher than the number of people who actually has access to these programs. In a report issued by the Institute of International Education (2012), Colombian students enrolled in ESL programs across the U.S. during the previous year only represented 1.16% of that year's worldwide gross total. Likewise, the number of Colombian students enrolled in U.S. universities in previous years (2007-2008) was equally low (1.1%) (Planty et al., 2009). Other nations such as Brazil have a stronger representation of students in the U.S. (4,225 out of 7,050 students in the region) and easily compare to nations such as Japan (5,502) and Taiwan (3,076). As shown above, the representation of Colombian students is rather low in both ESL programs and degree programs in U.S. universities, but as low as the statistics and numbers are, it should be clarified, however, that ESL programs *do* represent a solid option for language acquisition; their downside is found when comparing the value of currency among world economies, and the fact that a large proportion of countries wishing to adopt English at various societal spheres originates from low-income and middle-income countries (Phillipson, 1992).

Studying a target language and a cultural group can be expensive, but technological advancements can facilitate learning a foreign language. For instance, Chapelle (2001) has reviewed advanced ways in which second language learners can profit from computer technology. One of these ways is by means of artificial intelligence tutoring systems which resort to voice recognition systems and learner-computer interaction. Similarly, computational linguistics is a type of technology which, in words of Chapelle, has focused mainly on the processing of input/output of human language in a written manner. Other types of technologies explained by the author relate to language assessment mediated through computers and those technologies resorting to the use of corpus linguistics in order to describe human interaction and diverse language use. As reviewed, the advent of computers and new technologies pose different alternatives in which human contact is diminished so as to facilitate teaching in ways that time, efficiency, and learners' autonomy can be reached.

Based on the economic and pedagogical concerns discussed, another more accessible option in learning a language and its culture introduces itself by offering access to a virtual simulation of the desired context language learners wish to experience within their own tangible reality (henceforth R1). As previously explained, travelling to the country where the target language is spoken appears to be perceived as an ultimate goal, yet not a reality in terms of economic capital for many (see Altbach, Kelly, & Lulat, 1985, for a list of factors preventing individuals from developing countries to study abroad). In this way, by means of

simulating an R1 through a similar virtual reality (henceforth R2) language learners can strategically save economic capital in that they can get better prepared to access R1 (if set as an ultimate goal) by having meaningful, virtual exposure to linguistic, non-linguistic, and cross-cultural material that can enrich their language learning experience as presented by Galvis (2011b) in his pilot study using a mainstream video game in an EFL program in Colombia.

Using video games to simulate realities has gone beyond entertainment purposes. For example, Dretzin and Rushkoff (2010) explain how the U.S. Army uses video games for training purposes (see also Squire & Jenkins, 2003). In a similar vein, the German patrol system trains police officers in order to perform carefully under life-risking conditions when pursuing law breakers on some of the no-speed limit highways in Germany. According to Nash and Schipper (2008), police officers have to undergo extensive training by means of video games in order to simulate the extreme driving conditions they face while on duty. While the type of video games is not mentioned by either source, one can easily infer that such games are simulations and virtual extensions, that is, augmented realities of a real-life context (see Kirriemuir & McFarlane, 2004, for types of games including educational vs. mainstream games).

Video games as well as augmented realities appear to share commonalities and usefulness in everyday life. For instance, IBM has recently launched a platform of augmented reality that allows customers to explore in-depth grocery store products for later purchase. By exploring products and their characteristics virtually, customers learn more about what they are buying, compare prices, and provide grocery stores with information on their shopping preferences, a real perk for businesses as reported by Duarte Roa (2012).

As reviewed above, both video games and augmented realities' affordances go beyond entertainment purposes that can serve different useful tasks in various societal fields. In *education*, the use of augmented realities and video games has been widely used in knowledge areas such as mathematics, chemistry, biology (MacKenzie, 2005), environmental education (Squire & Klopfer, 2007), and only few reports regarding the use of augmented realities and video games in the field of language education are available. In these reports, one can observe that the use of video games instruction has been associated with more student engagement (Randel et al. as cited in Mitchell & Savill-Smith, 2004).

A Rationale for the Inclusion of Video Games in Schools

This section will review some academic considerations based on Gee's (2007) work on theoretically founding the implementation of video games in education. In addition, three main constructs supporting the use of video games in education (incidental learning, language identity, and flow) will be explained in relation to the construction of VGBLI.

Gee (2007) has laid out important theoretical foundations to justify the use of video games in education. In his words, video games could finally reconcile theory and practice in schools, and one may even add the need for designing more suitable pedagogical materials for learners. One of the most advocating factors for the use of video games in education is the fact video games provide the opportunity to learn situated meaning that lead learners to the acquisition of active and not just passive content. It appears that such claims are possible in that the nature of video games allows for virtually accessible material in which learners can explore R1 aspects within a simulated R2. Regarding these simulations, Squire and Klopfer's (2007) study perfectly exemplifies the usefulness of such simulations in the context of environmental education as explained earlier.

Another supporting argument has to do with semiotic domains. Gee (2007) explains that different types of signs (visual, textual) have domain-specific meaning. In this order of ideas, the author states that traditional literacy is not enough in that this type of literacy only allows for encoding and decoding printed information, whereas semiotic domains lend themselves to allow learners to decode not only linguistic material, but also paralinguistic material such as images, roles, and in general artifacts that produce context-specific meanings. Gee provides various examples of how semiotic signs can provide context-specific meanings, but basically the point being made here is that the meanings of words do not operate in isolation from contextual practices, and the meanings are precisely how video games represent an enhanced field for learning and, I add, because every video game brings an embedded context of its own.

A final aspect related to using video games in education is that such practices must be accompanied by critical learning. According to Gee (2007), video game practices should allow for meta-analysis so that learners see beyond what is presented to them in the context of individual video games. Gee states that critical learning is an important component of VGBLI in that video games contain embedded appreciations, beliefs, assessment, and in general, content that somehow dictates modes of behavior. Incidents of how individuals have failed to distinguish between R1 and R2 have been abundantly reported and associated with violent crimes around the world.

Gee's (2007) postulates can best be put in a nutshell by defining the use of video games in education as being forms of active learning (Bonwell & Eison, 1991; Cameron, 1999; Denicolo, Entwistle, & Hounsell, 1992; Settles, 2012), which reconcile theory and practice by presenting contextualized meanings while simultaneously encouraging the acquisition of supplementary types of literacy that better match the educational needs for contemporary society. Finally, video game practices as argued by Gee, should lead to critical learning due to the risk of assimilating passively the content presented in mainstream video games. Other important theoretical foundations relate to the negotiation of identity that users experience

when using video games which will be reviewed elsewhere in this document. In light of the affordances and advantages of using video games in education, language learning educators can profit from the real applications such games allow, the different learning styles they can cater to due to the different types of technologies included, more student engagement, and authentic language exposure.

Some Linguistic Foundations for VGBLI

Despite Gee's (2007) astounding work in setting out the core principles comprising the inclusion of video games in mainstream education, one cannot observe in his work any immediate concerns regarding foreign/second language instruction. Given this, I will attempt to postulate some theoretical foundations for language learning by taking Gee's ideas as a starting point as well as those of other scholars who have contributed to understanding the nature, usefulness, and affordances of video games in education. I will attempt to include SLA theoretical principles in order to shed some light on what target areas VGBLI could enhance.

The first theoretical construct favoring the use of video games in language education has to do with *incidental language learning*. As reported by Squire, Giovanetto, Devane, and Durga's (2005) study, as well as Galvis' (2011b) study, there appears to be a connection between incidental vocabulary gains and the use of video games in education. Bearing this in mind, a language teaching approach which operates under a potential of fostering incidental language acquisition represents a solution and an enhanced way to teach foreign languages in the midst of current challenges in literacy such as students' low reading scores, lack of interest in reading (Bauerlein, 2009) and even motivational aspects to learn English, particularly, when such learning is controlled by external factors such as government policies adopted in non-English speaking nations, and whose acceptability may not be adopted favorably by those actually affected by such policies, that is, language learners and their intrinsic socio economic variables (Galvis, 2014).

As mentioned above, research has shown that video games *do* foster incidental language learning, specifically contributing to vocabulary gains. In Giovannetto et al.'s (2005) study it was observed that low-achieving students gained vocabulary related to history and medieval times better by simply being exposed to the video game *Civilization*. Likewise, in Galvis' (2011b) study, participants reported having learned vocabulary when being exposed to the video game *Grand Theft Auto*. With this in mind, one can see how video games have been ascribed to vocabulary gains when participants are simply exposed to these and their grammar.

The second compelling theoretical concept favoring a VGBLI approach in language teaching has to do with the construct of language identity, namely, foreign language identity (FLI). The latter becomes important in EFL contexts because it has been negatively placed in

an inferior position in the literature given the lack of meaningful experiences it can foster for learners (Block, 2007). In fact, Block points out that the only potential of FLI is seen in Internet exchanges as these may raise some cultural awareness that ultimately could have an effect on learners' identity. Books, classroom role play activities, and other resources may foster what Block refers to as *cross cultural* experiences which, in turn, may facilitate some learning of cultural information with no effect whatsoever on identity, the latter being an ultimate goal in intercultural encounters (Kramsch, 1993) with the concept of third place identity.

VGBLI, however, begs to differ with the statements above, and puts language learning at a more advantageous position since it precisely resorts to the learners' identity by means of a video game grammar in order to expand such identity. To better understand this, it is necessary to review Gee's (2007) work on identity by examining mainly three types: virtual, real, and projective. When approaching video games (or doing any task for that matter), individuals resort to their real life experiences and background in order to interpret the task they are facing. In addition to their experiences, when using video games, Gee (2007) explains individuals assume another role: the role of that virtual character on the screen. Thus, in video games simulating warfare such as *Call of Duty*, players automatically assume the identity of a low-ranked soldier starting from scratch in order to succeed in her/his military career. In first-shooter games such as *Grand Theft Auto*, the player assumes the identity of a criminal who needs to survive in the context of large American cities. These identities, which I refer to as *prefabricated identities* are in terms of Gee *virtual identities*, and as explained, they are nothing but the first de-facto characters that players assume. In fact, one could hypothesize that players choose games based on their personality, a hypothesis worth revisiting and delving into when implementing VGBLI in language education.

Continuing on to Gee's triad identity categorization, one finds *real* identity. As its name suggests, this identity is the identity the player already has, although this may not necessarily be true with younger individuals given their identity shaping. Gee explains that one's real identity can be perceived as alter ego of the character of a video game in that both *beings* have strengths and weaknesses in both real life and in the context of a video game.

The last type of identity introduced by Gee (2007) has to do with projective identity. The author explains how much potential such identity represents for players in that such identity poses itself as a set of possibilities given the game affordances and the player's goals. A way to illustrate this could be *The Sims*, a simulation game that allows users to be in charge of their own life transcended into a virtual environment full of the same challenges of R1, that is, getting a job, buying groceries, getting married, raising children, and so forth. When playing *The Sims*, one is given the option of being a male or a female character that one names, gives personality to, and controls during the game. Individuals envision their projective identity

differently. Therefore, while one player may design a homebody life-style, another may simply expand onto more active roles. These roles and projections according to Gee are a handful of potential given the affordances (Gee also refers to these as *internal design grammar*), that is, the possibilities given by the game. In *Grand Theft Auto*, one can be a criminal, but not a housewife. By the same token, *The Sims* allows for more ordinary lifestyles, but prohibits more violent lifestyles as those depicted in *Grand Theft Auto*. Because identity in language learning is a decisive factor for success (Norton, 2000), VGBLI does present a sound pedagogical approach for EFL teaching which enhances identity as it allows learners to explore more possibility and have more access to experience either what they are or how they project themselves by means of a virtual reality. In an unpublished pilot study about the effects of using video games in teacher education programs, it was observed that learners' projective identity was feasible by means of using *The Sims* and hence their language and vocabulary options were possible to expand. With this in mind, VGBLI presents prospective paths to tread in order to overcome the inferior position that EFL has taken due to the restriction for identity construction posed by traditional ways of teaching it.

The final theoretical construct supporting the use of VGBLI has to do with flow. Kirriemuir and McFarlane (2004) have identified flow as a major element of motivation when using video games. By the same token, Csikszentmihalyi (1997) explains flow from an anthropological perspective and describes it as the gratification obtained when self-interest, self-motivation, obtainable goals, and work orientation lead to the real reaching of a goal. Reaching flow is not easy as a set of factors must take place harmonically in order to provide happiness and self-gratification. Csikszentmihalyi states that once factors synergistically work, then individuals reach a cognitive level in which attention "becomes ordered and fully invested" (p. 31).

In Csikszentmihalyi's (1997) theory, one can also observe that everyday life activities have been identified as not producing flow. For instance, in a study involving individuals of different ages, Csikszentmihalyi (as cited in Csikszentmihalyi, 1997) found that school and work do foster high levels of concentration, but do not produce as much flow as other daily activities such as driving, playing sports, or watching movies. All of which are possible in any video game simulating driving, playing sports or, to say the least, any video game that contains a plot in which the user engages into any of the aforementioned simulated activities that leads to a reachable goal.

Given the strong influence of flow in human life, one can see the need to understand possible connections between education, video games, and flow. Because this concept is believed to be associated with the successful acceptance of video games, one would need to investigate the connection between this and how education can profit from such construct, if compatible, in the midst of traditional cultural beliefs about education.

Linguistic Concerns for VGBLI

Focus on Form vs. Focus on Forms

VGBLI represents an enormous challenge if compared to any language methodology/approach. In fact, Harmer (2001) and Larsen-Freeman (2000) mention at least in one way how language approaches/methodologies resort to Focus on Form (form-oriented instruction) as opposed to Focus on Forms (communication-oriented instruction). Nevertheless, given the fact that VGBLI has appeared to benefit mostly from vocabulary instruction, a new debate then arises whether to address the inclusion of Focus on Form, Focus on Forms, or both.

VGBLI would be innovative in nature as it is founded on various hypothesis (not limited to SLA only) in which simulation, intercultural studies, real language exposure, and language identity become key components to facilitate language learning in what appears to benefit specific language learners in vocabulary acquisition. Such an approach as experimented by Galvis (2011b) does not present itself as a replacement for previous forms of language instruction; rather, VGBLI's presence would be complementary to such forms of instruction. Future research would help determine if VGBLI would be a replacement for language instruction itself or simply a complementary add-on. For the time being, a Focus on Forms approach appears to be more congruent with VGBLI from the standpoint of incidental language acquisition as posited in this document.

Reading and Writing in VGBLI

Depending on the target population, reading instruction and its purposes may vary in language approaches/methodologies. As reviewed by Coady (1997), reading approaches in initial learning stages may lead to incidental vocabulary acquisition. Because of how much information there is embedded with the simulation of a context, VGBLI can approach any topic generically and adapt it to specific reading purposes. For example, when reading the instructions for *Grand Theft Auto* as well as other mainstream video games, players must access authentic and rich material that must be digested in order to understand a game's internal grammar (Gee, 2007). Not understanding a game's grammar results in not being a *functioning digital member* inside a game. Information for game instructions can be found in a video game itself, but also in virtual communities that are game-specific online where several members with kindred interests participate online in order to solve game situations.¹ Given the need for

¹ Some examples of these communities can be found online for *Grand Theft Auto*: <http://www.thegtaplace.com>, <http://www.gtagaming.com>.

understanding games' internal grammars and that such grammars are usually found in authentic language, reading for VGBLI becomes an enriching activity because of the language authenticity found; nevertheless, questions remain as to VGBLI being compatible with all types of learners depending on their language proficiency.

By understanding the rich and authentic input players and learners are exposed to, it is of utmost importance to set the basis for potential reading approaches to explore in a VGBLI-mediated learning environment. For this purpose, Horwitz' (2008) classification on reading approaches seems to offer three types of reading that may be explored in VGBLI, namely, *intensive reading*, *extensive reading*, and *reading to learn*. Because most information about mainstream video games is content-oriented, aforementioned approaches, then, may fit perfectly in preparing learners to digest content material. Of course, more commonplace reading techniques such as simply scanning or skimming may be used as well; nevertheless, language instructors must understand that VGBLI fosters the processing of rich and abundant internal grammar games resources that learners may need further preparation on to approach because of the complexity of only using authentic language without any input modification.

Conclusions and Further Research for VGBLI

Virtual Realities and Reality Checks

As argued by Gee (2007), Kirriemuir and McFarlane (2004), and Squire and Kopfler (2007), one of the strongest advantages of video games lies in their capacity to simulate real-life contexts. While this appears to be a sane benefit, recently reported information worldwide begs to differ. For instance, *Elespectador.com* (2011), Sutter (2012), and *Le Figaro* (2012) have reported the case of a massacre in a real-life context (Norway) done by a video-game enthusiast. After the verdict, the Norwegian government banned the selling of violent video games. Bearing in mind the associations (not research-based) made with video games and violence, a legitimate concern, then, opens itself for discussion regarding the need to overtly teach students to separate R1 and R2, even if their distinction can be blurry at times given the affordances of video games in terms of simulation. A starting point could be to explore the types of identities and personalities students bring a priori to the use of video games. This argument is similar in nature to the ones posited by Guiora (1972) about language ego and ego permeability which revealed that different types of egos were affected by the effect of alcohol and the learning of English pronunciation. By the same token, empirical research could help understand individuals' personalities and how these are affected by the use of video games. Unfortunately, mainstream video games (including violent video games) have major acceptance in general, and banning them does not seem to be a fruitful path; rather, understanding users and the effects of video games on them seems like a more useful

option while simultaneously thinking of developing edutainment that provides flow and creates language learning experiences with a lesser degree of violence.

Researchers interested in adopting and implementing VGBLI must be aware of the fact of the various technical difficulties and institutional turmoil such approach may cause mainly due to the fact that, as expressed by Galvis (2011b), video games and academia seem to be hanging on opposite extremes. While there are several concerns, one can easily foresee the need to adopt VGBLI in the midst of positive and conducive beliefs to adopt this type of technology with fearless spirit. By testing VGBLI in several contexts, one could learn more about its efficacy and validity and troubleshoot common obstacles. Theoretically speaking, VGBLI *does* represent a feasible option for language instruction which poses itself tempting for some and controversial for others.

All concerns seem to be of equal importance in VGBLI, however, taking into account the aforementioned review about some of the most crucial aspects of the construct of identity in second language learning and the affordances of video games, one wonders if an approach such as VGBLI provides opportunities for students to explore critical experiences such as those experienced in ESL abroad programs as reviewed by Block (2007). Studies examining VGBLI could find an interesting research focus by studying learners in ways to determine what sort of discourses and identities are faced when implementing VGBLI and, of course, if in-game tasks/activities are conducive to experiencing critical experiences as proposed by Block. From this discussion two main questions arise: What are the identities and discourses students bring to the language classroom? Does VGBLI alter such identities and discourses and if so, how?

Another concern for VGBLI relates to flow (Csikszentmihalyi, 1997). The study and nature of this concept may be controversial given the fact that the ideologies and assumptions flow seems to orient experience towards joy and comfort, and these differ greatly from the *traditional* concept of education. What's the role of language education and flow? Does language instruction need to be in search of flow, let alone education in general? Does VGBLI promote flow? If so, would traditional teaching be at stake? What reasons would support this claim? Flow appears to be one decisive component behind people choosing video games as stated by Kirriemuir and McFarlane (2004), and its study can strengthen the understanding of possibly many motivational factors affecting the study of foreign languages and education in general.

Because VGBLI is innovative and iconoclastic in nature, it has an innate tendency to challenge traditional and commonplace pedagogical practices. One of the target practices to address is testing and assessment. Studies implementing VGBLI can examine what testing and assessment practices best suit a VGBLI environment. One could predict that alternative assessment is more likely to succeed in VGBLI; however, further research is needed in order to understand the interaction of the different pedagogical practices involved.

Cultural representations, cultural stereotypes, and language development in VGBLI environments become elements for further research. Generally speaking, one can see the main motivation to use VGBLI in entertainment and the incidental language learning it may promote while keeping up motivational and attitudinal factors. Language educators willing to implement VGBLI must balance entertainment, education, and learners' needs. Hopefully enough educators would be willing to partake in what is most likely the future of language learning in foreign language environments. Such environments, one can predict, would found their teaching premises and principles on the simulation and augmentation of reality in exactly the same way it has been done in other fields of knowledge as reported in this paper.

Finally, despite the fact that VGBLI attempts to make learning EFL more reachable when conditions do not allow for international mobility in some of the contexts where English is taught worldwide, one can already find other challenges related to finding monetary support and facilitating agents to field test innovative proposals as VGBLI. In the Colombian context, economic challenges and institutional priorities for other areas pose as main obstacles to conduct rigorous research. As a matter of fact, important linguistic projects in the past were delayed due to economic constraints and lack of policies supporting the funding of such projects, which resulted in delayed publications of up to three decades (Canelas Rubim & Bayardo, 2009). Hopefully international audiences would be motivated to contribute to supporting VGBLI and its potential in the field in terms of capital and economic gains. Such bona fide contributions would result in deeper understanding of the processes of language acquisition by means of simulated realities. This type of contributions would also exacerbate the spreading of the English language worldwide in light of the affordances of current technology and its benefits for human progress. Finally, it is expected that the teaching of EFL can be enhanced in places where economic challenges are oppressing and inhibiting for the teaching and learning of English.

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