Guadalingo in Teaching Spanish as a Foreign Language (FL): Practical Insights

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Abstract—The main objective of this study is to provide practical solutions in the teaching of Spanish as a Foreign Language (FL) based on the *Common European Framework for Languages (CEFR)* in combination with a video game, adapting it to the requirements of L2 language learners. Since video games appeared, they have been increasingly used globally as tools for learning and teaching subjects related with languages, culture, social topics, gender, education, and global citizenship. This article focuses on how to use the serious game *Guadalingo* and does so through a reflexive approach and using qualitative data. The research was a three-month qualitative study supplemented with numerical values for pre-course information related to participants' attitude to traditional homework, game-based activities, and device predilection (handheld mobile devices with a touchscreen interface versus PC with a physical keyboard). The findings reveal high presence of female participants and their readiness for playing a video game to learn a new language. Further work is required in the study of motivational out-of-classroom tasks in teaching Spanish with focus on gender (male versus female), age (digital and/or not digital generations), and game graphics.

Keywords—video games, didactic application, serious games, foreign language teaching, computer-assisted language learning

I. INTRODUCTION

Since the outbreak of the internet, technology and gadgets have been influencing social interactions, education, work, and leisure time of both digital and non-digital generations [1−3]. As a result of the historically significant studies on pedagogy (such as behaviourism, cognitivism, and constructivism) and different learning modalities (Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL) and Game-Based Learning (GBL), a solid methodological base has been built [4−9]. According to Ref. [7], ICT is an instrument that mediates between students and learning contents, between teachers and learning contents, and finally between teachers and students. Digital technologies became immensely popular inside and outside the classroom due to their flexibility, the ease with which they can be updated, and their lower price compared with traditional book-based materials [10−13]. Their impact, which has been especially strong in today's pandemic epoch, has led to the emergence of digital natives, reinforcing the use of e-learning systems at the same time effecting their leisure activities [1, 6, 14, 15].

Data from Spanish Video Game Association (AEVI) show that the video-game sector has expanded globally and has upgraded technological support applied to cloud gaming, instant games, and eSports, with an annual growth rate of 8.4%. Although video games have been associated with young and males, there is data indicating that gamers are a much more diverse community [16]. In 2020, according to ISFE Europe's Video Game Industry Key Facts report, 45% of all European video game players were female with 51% of those playing on hand-held devices with the average age of a video game player in EU being 31 years old. This has led us to pay attention on the European Commission's Creative Europe project, which takes another step forward, stimulating the development of video games with a high potential for wide distribution both within and beyond the European Union [17] aimed at developing of new activities for mobile portable devices, PCs, and consoles. Positive effects from games on engagement, motivation, and memory have been mentioned by a number of academic practitioners [18−22] at the same time videogame exposure was disapproved and criticised by others [23−26].

II. HOMO LUDENS: SIMULATIONS AND GAMES

According to Ref. [27], human nature is that of a playful creature, a *homo ludens*. He sees play as a freely accepted action or occupation that is carried out within specific temporal and spatial limits, that is an end into itself, and is accompanied by feelings of tension and joy. Bruner [28] adds to this the psychopedagogical role of play in thought, speech, and the development of intelligence. Saegesser [29] relates play with simulation and distinguishes between social simulation, on the one hand, and simulation as a play, on the other, with the former being much less structured than the latter. The author also points out that play can be useful in the context of pedagogy because it trains players to tackle a hypothetical situation (to solve a problem).

The first use of simulation in game-based learning was in a military context, more specifically flight simulators

employed by the American military. High-quality hardware and software were produced in the 1940s and, later on, in the 1960s [30]. The 1980s saw this technology being applied in ludic and commercial settings in the US and other countries since the launch of *Breakout*, *The War of the Worlds*, *Star Wars*, *Space Invaders*, and *Super Mario Bros*. Along the way, it has been demonstrated that many of those games whose initial purpose was purely amusing have served to upgrade a variety of players´ skills [31−33]. In the late 1990s it was directed toward the development of materials for CALL (programs, tasks, contents, etc.) in the teaching of any language as a Foreign Language (FL). The same period also saw the emergence of commercial products for computer-assisted foreign-language teaching.

Malone [34], Dempsey, Lucassen, Gilley, and Rasmussen [35], Jenkins [36], Habgood, Ainsworth and Benford [37], and Prensky [38] were the first to point out that games are a very efficient tool for creating learning environments that work with narratives. Gee [39], Kress [40], and Williamson [41] compared games to multimodal texts or semiotic domains that employ strategies contributing to new forms of literacy with images and words, sounds, music, and movements. Malloy and Aarseth [42] compared games and interactive fiction to ergodic texts with non-linear, labyrinth-like structure in which most of decisions are attributed to the reader/player.

III. OBJECTIVES

The preparatory stage of the study consisted in collecting preliminary information on population (obtaining numerical values for participants' attitude to traditional homework, game-based activities, and device predilection) and offering them a suitable course in line with the findings. The main part of the chapter focuses on how to use the serious game *Guadalingo* [43] and does so through a reflexive approach and using qualitative data. The study was aimed at promoting intrinsic motivation [44−47] among students via the use of *Guadalingo* as a substitute for conventional homework.

Graphic adventures, which developed from interactive fiction and graphic novels, are a good example of how game activities can be used to improve listening, vocabulary, and grammar [48−50], reading and writing abilities [51] and to reinforce visual memory [52−54]. Harmonious with the dual-coding theory [55], these types of games make extensive use of rich textual and imagery environment with a non-linear structure allowing the player to explore the game and decide what to do next at each stage.

IV. OBTAINING PRELIMINARY DATA

Forty-one participants were reached via social-media platforms (*Facebook*, *Twitter*, *Linkedin*, and *VK/Vkontakte* by the research team. They were all were native speakers of Russian (68%), Belarusian (20%) or Ukrainian (13%), belonging to Indo-European language family, East Slavic language group with Cyrillic writing

system. The participation condition was being over eighteen years old and having no previous knowledge of Spanish. All the participants had to provide informed written consent before taking part in the study. The first questionnaire (*Microsoft Forms*, *Office 365* suite) collected information on the potential learners such as L1/L2 languages, course-related preferences, and goals in studying Spanish. Participation was anonymous and voluntary, with participants receiving remuneration in the form of a 30% discount on the total price of the online A1-level Spanish course. All the qualitative and numerical data obtained by the course tutors were anonymised by the main researcher. Thirty-eight valid answers were obtained after applying the inclusion criteria. The set of preliminary findings contains responses for ages between 27 and 43 with a vast majority (81%) of participants belonging to ages between 30 and 37, most of the latter being women (72%). Nearly 70% indicated knowledge of only one L2 (English) whereas a significantly fewer number of contestants mentioned previous knowledge of a language pair (English-German − 17%, English-French − 9%, and English-Italian − 4%). A 5-point-Likert scale was applied to collect data on readiness to do an online course, eagerness to do exercise-based homework, availability to play a game as part of the course and device preference. An absolute majority (94.8% of contestants) confirmed their enthusiasm in course participation with answers reaching the same indicator in relation to game-based support (94.7%). The contestants' availability for doing exercise-based home-work split between 41.1% of *not-ready* participant together with a more categorical sub-group of *totally not ready* (7.9%) against a total of 40.50% for *ready* (30%) and *totally ready* (10.5%) subgroups, with 10.5% of population staying neutral (Fig. 1).
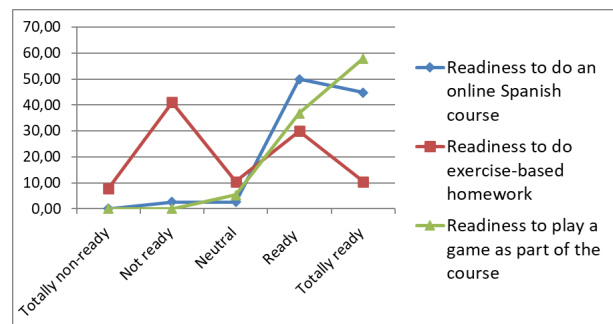

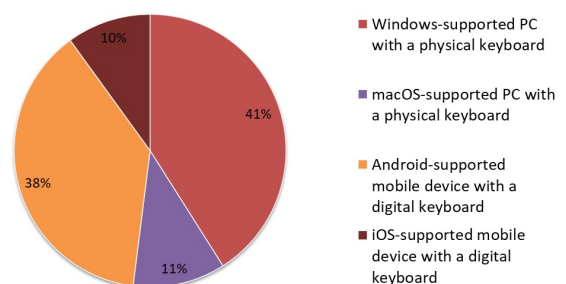Figure 1. Course-related expectations (distribution on a 5-point Likert).

Figure 2. Participants' device choice.

The numbers almost equaled between Android-supported mobile devices (38%) and Windows-supported PC (41%) with a slight inclination towards the latter with macOS and iOS being similarly the least common choices (Fig. 2).

Studying Spanish at A1 level was associated among the contestants with three main goals: travel opportunities (frequency of related terms – 117 mentions among 38 contestants), job opportunities (frequency – 76 mentions among 38 contestants) and cultural aspects (frequency – 91 mentions among 38 contestants), among other, less frequent categories, which encompassed knowledge of a particular topic of interest or no specific answer. Taking into consideration all the findings, the game selected to substitute exercise-based home assignments for experimental group was *Guadalingo* by the publishing house *Edinumen* for basic (A1) level. It offers an action-based environment featuring situations similar to real life at the same time being the best fit for Spanish FL textbooks that follow the Cervantes Institute curriculum. The game's contents comprise of 25 missions (going to the language school, communicating in the airport, making gifts, decorating the character's home, going shopping, etc.) similar to real-life experiences in a foreign country (Fig. 3).
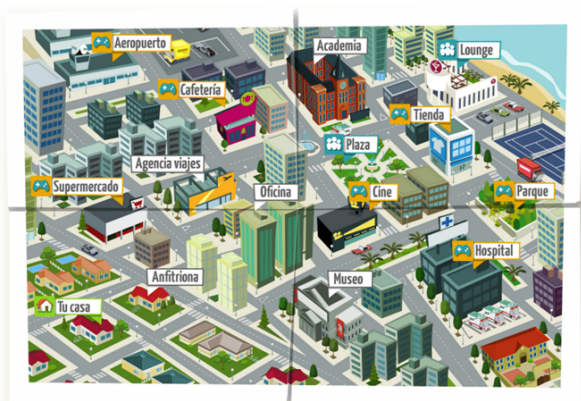

Figure 3. *Guadalingo* map with areas (source: Manual for teachers).

Figure 4. Personalizing the player's avatar (in the home area at the start of the game).

The in-game goal for the player consists in moving to a Spanish-speaking country (in Latin America) and gradually learning the language through practice in the virtual world. The individual missions contain specific

challenges that the user´s character has to fulfil. Avatar personalization proposed in the game is presumably aimed at helping learners to identify more with their protagonists (Fig. 4).

When a mission is successfully completed, players obtain rewards (money, etc.) which could be used at other stages. Instant feedback is provided automatically which contributes to constant self-evaluation of their progress (formative in-game assessment).

V. A THREE-MONTHS *GUADALINGO* COURSE (ON WINDOWS 10 FOR PC)

The study that this part is based on was a three-months study with a sample of 12 participants. Their ages ranged from 31 to 42 years, eight of them were women and four men; all were native speakers of Russian, four of them also spoke Belorussian and three of them were bilingual in Ukranian. The course was evaluated based on the end-of-course results and feedback obtained (online interviews, online survey forms, and group-chat interaction on Zoom). All the participants allowed their non-identifiable data to be used and asked to receive updates related to this study. None of the participants had any previous knowledge of Spanish, although all knew some English (between B1 and B2) and three students had some knowledge of other languages (German at A2-B1 or French at A2-B1). The participants were randomly distributed into two groups of six people each keeping numerical gender balance between both groups. Group EG (the experimental group) studied Spanish online with a tutor (one hour, two times per week) in combination with self-study through *Guadalingo* (the amount of time depended on each student's possibilities and interest with recommendation to dedicate between 3 to 5 hours' time per week on those activities). Group CG (the control group) only took online classes. The traditional didactic material that both groups used was the textbook *Aula Internacional 1 Nueva Edición*.

VI. RESULTS AND DISCUSSION

Most students from the experimental group (83.3%) found *Guadalingo* to be a *good* and *entertaining* tool for self-study that presented *useful* situations. More than half (66.6%) did find the game *repetitive* and 16.6% felt the *graphics could be changed*. *Guadalingo*-integrated-games, such as ordering the words to make sentences, matching activities, definitions and crosswords were found mostly *appealing/ interesting/ motivating/ engaging/ fun, etc.* (data gathered from online interviews) in comparison to the control group exercise-based assignments that were predominantly described as *time-consuming/ demanding / burdensome, necessary but not easy* and *all right*. The participants found listening comprehension to be one of the most challenging tasks at this level; this could be quickly improved by having the designers add the audio to the instructions in Spanish. All participants used dictionaries to better understand some tasks or expressions. In relation to the amount of time invested, this slightly varied: two students used the game

3 or more hours per week, three students used it between 2 and 3 hours per week, and one student said they used the game between 30 minutes and 2 hours per week. After the three-months study period, both groups did an exam (Table I, Table II) and evaluated the course (Fig. 5).

TABLE I. SUMMATIVE EVALUATION IN THE EXPERIMENTAL GROUP

Evaluation on a 10-point scale for each part (EG)	P1	P2	P3	P4	P5	P6
Reading comprehension	6	5	8	9	6	8
Writing skills	6	6	7	8	3	6
Spelling	7	6	9	8	5	6
Vocabulary	8	9	8	9	6	8
Grammar	8	7	8	7	6	5
Listening comprehension	6	6	5	6	4	5
Speaking skills	7	8	8	6	5	6
Pronunciation	8	7	8	7	6	7

TABLE II. SUMMATIVE EVALUATION IN THE CONTROL GROUP

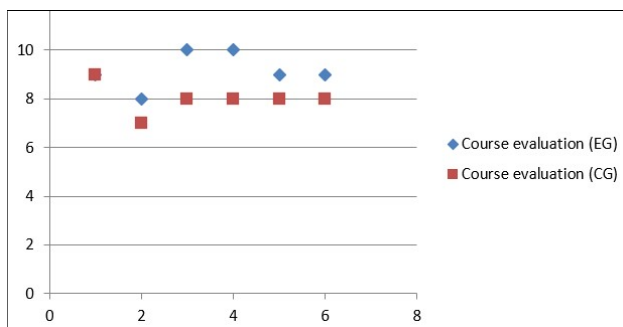| Evaluation on a 10-point scale for each part (CG)	P1	P2	P3	P4	P5	P6
Reading comprehension	9	5	3	7	6	6
Writing skills	8	5	4	6	5	6
Spelling	9	6	5	6	5	6
Vocabulary	9	6	7	6	7	7
Grammar	8	7	7	7	6	6
Listening comprehension	6	5	4	6	5	5
Speaking skills	8	6	5	7	5	6
Pronunciation	8	7	7	8	6	6

Figure 5.   Course evaluation on a 10-point scale

The experimental group outperformed the control group on reading comprehension, spelling, and vocabulary use during summative evaluation. The experimental group was also a little more motivated at the exam than the control group, whose members expressed slightly higher difficulties with some tasks. There were no significant differences in grammar, speaking or pronunciation between the two groups. The experimental course received slightly higher evaluation from the participants in comparison with its conventional alternative. The numerical data gathered were used to reflect on the study's context and subjective reality. Because of the low number of participants, however, no conclusions can be drawn regarding tendencies.

From the tutors' perspective, one of the game's advantages was a platform which enabled them to not only supervise students' activities, but also to create tasks and incorporate contents (uploading writing tasks, sharing recordings, using a forum). Students eventually could check their progress on permanently visible tables, and thus to continuously self-evaluate. *Guadalingo* can be adapted to the structure and requirements of the DELE examinations (thus, in addition to the already integrated games, extra exercises can be added to practice reading, writing, listening, and speaking skills, and teachers can evaluate them through the platform).

Conclusively (research team perspective), the study received a high number of female contributors who actively demonstrated their readiness for playing a video game to learn a new language. Due to the low number of research population, further (and more precise) work will be required in the study of motivational out-of-classroom tasks in teaching Spanish with focus on gender (male versus female), age (digital and/or not digital generations) and game graphics.

VII.   CONCLUSION

The Web 2.0 and E-Learning 2.0 models gave rise to the concept of connectivism, shaped new experiences among a virtual community that, through technology and networks, allowed its users to learn by searching, learn by interacting, learn by doing, and learn by sharing [56]. The year 2006 saw the birth of *Web 3.0*, which made a shift from a single-server location to decentralised networks with virtual assets and identities controlled by users. While serious games are excellent tools for self-learning, they can be even more motivating when contain tailor-made tasks or can be used non lineally. It would be good if in the near future *Guadalingo, Don Quijote* and other retro-style graphic-walking games like *Grim Fandango* and *Monkey Island* series could offer different types of visuals (in line with the artistic preferences of the users), or maybe strive for virtual reality. Augmented reality programs which allow to traverse the physical world via a digital map could offer the generations of the digital era a stronger sense of immersion. Speech-recognition programs are also open to improvement and could offer a wider variety of phonetic exercises, and together with AI programs they could enhance various aspects of human/computer interaction, including Spanish/Spanish FL. Paper books for language teaching are already being supplemented or replaced with interactive educational platforms, and these may be adapted for multi-player use on the new digital devices and in *Web 4.0* or get integrated into *Metaverse* virtual learning environments. This means that we will always have to design, upgrade, and apply new resources, and maybe we will have to do so very differently from what has been doing until now.

CONFLICT OF INTEREST

The author declares no conflict of interest.

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