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***The Last of Us - Part II*: a social-semiotic analysis of a
digital game to support pedagogical practices in language
teaching**

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The Last of Us - Part II: a social-semiotic analysis of a digital game to support pedagogical practices in language teaching

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1 INTRODUCTION

In the last two decades, many studies have analyzed videogames' potential for entertainment and educational uses (GEE, 2005; BIZZOCCHI; TANENBAUM, 2012; MCGONIGAL, 2012; AMARO, 2016; MAJKOWSKI, 2018), as these products became more popular and widely affordable to a greater number of people following the explosion in indie games production in the latter half of the 2000's and the beginning of the 2010's.

In addition, the bigger number of new gamers globally indicates that old players are still enjoying this medium and games now reach all age groups, not only children, as thought of in the past. Therefore, it seems important to debate in what ways games can be used in the classroom to promote the practice of multiliteracies (COPE; KALANTZIS, 2015), since they are a rich linguistic medium that has multimodality as a core feature (PÉREZ-LATORRE; OLIVA; BESALÚ, 2017).

On top of that, games propose an interactive context which relies on the user experience to communicate its meanings (PÉREZ-LATORRE; OLIVA; BESALÚ, 2017), so we deemed necessary to consult the previous studies proposed by Gee (2005) to consider the good aspects of videogames when choosing what materials to work with.

According to the Gee (2005), a videogame has the potential to be used as an educational tool because it encompasses a set of mechanics which puts players inside a decision-making process that gives them rewards for their accomplishments. Furthermore, this experience can instigate the user to take responsibility in learning, because it is necessary to reach different goals inside the virtual worlds, for instance, to survive or to complete tasks/missions.

With this in mind and thinking about the pedagogical use of videogames in the classroom, teachers can create activities that use them or at least include, game-like elements, to stimulate students to engage more closely in learning activities while they play, providing a larger range of possibilities for them to learn from.

In order to contribute to the field of games studies, mainly how to integrate this multimodal genre in foreign language classes, the main objective of this study is to identify the potential of games as learning tools in language teaching based on the university students' opinion. To reach this goal, we seek to understand the semiotic resources that develop the ludo-narrative and system-gameplay dimensions as

proposed by Pérez-Latorre, Oliva & Besalú (2017) in a videogame (determined by the academic community at *Universidade Federal de Santa Maria* (UFSM)); to what extent the analysis of these dimensions can contribute to language learning when exploring this game in a game-based classroom; and how we can explore the audiovisual narrative of said game to teach languages.

Therefore, to assess the university students' opinion regarding the use of games as language learning tools and the perceived effectiveness of this media in their learning language processes, a survey was conducted at the *Universidade Federal de Santa Maria* (UFSM), where the academic community was consulted about their previous gaming experiences and interests. In this form, we aimed to identify a game that is a good representative of the genre, as well as its capability of instigating and helping students learn a foreign language.

In order for us to choose a game to analyze, we presented a list of good videogames (GEE, 2005) to the UFSM academic community, where, among other data, the surveyed students had to choose a maximum of three games as the best in that selection on a Google Forms questionnaire. The results indicate that adding together personal preferences, technical qualities, and its perceived potential as an assisting learning tool, the most influential videogame franchise in the participants' opinions was *The Last of Us* (TLOU). Based on such data, we focus our analysis on the last installment in the TLOU franchise, which is *The Last of Us - Part II* (TLOU2), as the first game, *The Last of Us - Part I*¹ (TLOU1), has already been the subject of a case study by Pérez-Latorre, Oliva & Besalú (2017).

In this paper, we aim to conduct an analysis of the game TLOU2 considering the game's social-semiotic features based on Pérez-Latorre, Oiva & Besalú's (2017) framework and propose activities for language teaching contexts involving the game, based on the analysis.

In the review of literature below, we will present the following sections: studies in CALL and games analysis and previous studies about game and language learning. After that, we expose the methodology, the data analysis and results, and the conclusions.

1 Although this technically is the name of the 2022 version of the game, and the original 2013 version is called simply *The Last of Us* (which is the one Pérez-Latorre, Oliva & Besalú used for their case study), in order to differentiate between the game and the franchise as a whole, we chose to refer to the former by its newer release name.

2 LITERATURE REVIEW

In this section, we will discuss previous studies published in the field of Computer Assisted Language Learning (CALL) about the status of videogames as a genre. We also bring some studies about games and language learning that could guide our development of teaching activities based on TLOU2's analysis as well as works on game literacy that may help in their practical classroom applications.

2.1 STUDIES IN CALL AND GAMES ANALYSIS

Alongside the early insertion of computational technologies inside educational contexts, the field CALL has arisen to deal with the emerging challenges in using new methodologies in language learning environments. In addition, CALL studies have been developed in the field of Applied Linguistics (AL), which can be defined as a branch of linguistics that brings multidisciplinary collaborations from different areas of knowledge to the study of possible solutions for linguistic problems in real life situations (REIS, 2010).

Currently, the growing tendencies for the use of digital means in human communication have increasingly been the focus of AL studies, as digital genres emerged to become a medium for the interaction of many linguistic communities, thus creating opportunities for exploring the new ways we v

Nowadays, CALL has evolved to assess and develop the pedagogic procedures used in digital learning contexts (REIS et al., 2012). Videogames, as a digital genre, take part in this field (REIS, 2017; GUNTER et al., 2016).

In this paper, our definition of language is provided by Halliday & Matthiessen (2004), which consider language as a social semiotic phenomenon, where dimensions (ordering principles) and principles of order form a semiotic system of meaning. In addition, games can be considered a social-semiotic phenomenon, as in them language is transmitted through many overlapping multimodal aspects, which are used to communicate meaning, such as the visual (written and imaged texts), auditory (spoken language and music), and even tactile (controller vibration outputs) forms.

According to Pérez-Latorre, Oliva & Besalú (2017, p. 588):

"from a social-semiotic approach videogames must be considered multimodal works or texts, where not only audiovisual narrative and game design coexist, but also often other semiotic modes that need to be considered, such as written text, music or 3D design."

According to Herbele (2010), as cited in Rodrigues (2019), multimodality "refers to the use of different semiotic resources to produce or interpret meanings" (p. 39). Rodrigues (2019) analyzes, among other things, the multimodal aspects of the videogame *God of War* (SANTA MONICA STUDIO, 2018), also known as "*God of War* (2018)". The author aimed at finding the differences between the original English dub and the Brazilian Portuguese version of the game in terms of representing interpersonal relationships among the main characters of the story.

To assess TLOU2's gameplay multimodal aspects, we searched for papers that could give us a model to follow in this study's data collection and help us define the criteria for the multimodal qualitative analysis in a social-semiotic language concept. Therefore, seeing videogames as a genre, the social-semiotic approach framework from Pérez-Latorre, Oliva & Besalú (2017) and the guidelines for the analysis of linguistic aspects in digital genres for teaching application from Reis (2017) fit our criteria and will serve as the basis for the analysis conducted via this study's methodology.

First, we bring Pérez-Latorre, Oliva & Besalú's (2017) framework for the analysis of videogames as social-semiotic mediums. As stated by the authors (p. 588):

"from a social-semiotic approach videogames must be considered multimodal works or texts, where not only audiovisual narrative and game design coexist, but also often other semiotic modes that need to be considered, such as written text, music or 3D design. Indeed, the complex semiotic connections between these expressive modes that occur in videogame design pose a fundamental theoretical challenge for social-semiotic research (see Kress 2010; Smith et al. 2011; Zhang 2014)."

Therefore, the framework consists of four analytical dimensions: the audiovisual narrative, which can present either the representational, compositional, and/or interpersonal significations; and the game design, which is divided into the ludo-narrative dimension (representational signification), the system-gameplay dimension (compositional signification) and the designer-gameplay dimension

(interpersonal signification). The main elements observed for this analysis are the "semiotic resources", that is, the many textual and verbal elements a videogame can present to communicate its meanings; and the "signifying potential", which represents the possible meanings a "semiotic resource" can convey.

To Pérez-Latorre, Oliva & Besalú (2017), the ludo-narrative dimension of a videogame "deals with the representational value of game design, and its connection to audiovisual narrative ('ideational function')" (p. 591). On the other hand, the system-gameplay dimension "is based on the frame of the videogame as designed problem-solving (instead of videogame-as-representation) and it focuses on the compositional signification of social-semiotic theory ('textual function')" (p. 591).

Pérez-Latorre, Oliva & Besalú (2017) proposed a case study to exemplify their framework. For that instance, they chose the game TLOU1. The analysis considers how the narrative and gameplay work together to create an experience for the player. Moreover, the paper explores some possible ways in which the representations of the story may allude to our real societies and how they work in a predominantly capitalist world. However, in the authors' opinions, there are also gameplay patterns that contradict said logic: where the game story criticizes overconsumption and the game mechanics reinforce collecting as much as you can carry to build tools for survival, for example. These conclusions help us understand its sequel, TLOU2, and the context of this complex story more thoroughly.

2.2 BIRD'S EYE VIEW ON PREVIOUS STUDIES ABOUT GAMES AND LANGUAGE LEARNING

Previous studies about games in language learning have different focuses of analysis. Silva & Medeiros (2016), for example, examine narrative and linguistic constructions inside the videogame God of War (SANTA MONICA STUDIO, 2005) by comparing it to a classic of epic literature with similar themes, the Odyssey. The conclusions show that games as a genre are a potential medium for the exploration of human psychological archetypes and a platform to review our relations with acquired knowledge, thus being a space for reflection and learning.

Considering dialogue as a fundamental game instantiation, by which most of the modalities of language inside a narrative game get manifested, we searched for papers on the subject to establish our definitions of this multimodal feature. Two

important contributions come from studies that focus on game dialogue, they are: Brusik (2006), which explores the modes of interaction provided by dialogues in games, focusing mainly on branching dialogue systems and their main features, while touching on verbal interaction, language use, and character believability; and Domsch (2017), who analyzes the forms of dialogue found in games and explores the way they are used to represent communicative functions, both written and spoken. In this sense, these studies provided us with a broad definition of dialogue interactions in a game, which can be categorized as follows: Player-NPC, Player-World, NPC-NPC, Narrator-World, Narrator-Player, and Narrator-NPC, including any other forms of semiotic information exposed as a way of communicating meaning to the player.

As noted by Kalantzis, Cope & Pinheiro (2020), visual and artistic stimuli have mostly been relegated to a secondary place in education in the last century. More visually appealing media, such as television, comics, and illustrated books, were thought to only be useful as entertainment tools, which could harm the students' learning process. Instead, most teaching was focused on writing and reading, while "art" was presented as an optional discipline, normally aimed at developing market-oriented skills.

After this, a new way of seeing language and how it structures the world in our minds has gained ground among linguists. Considering the synesthetic experiences that come from multimodality in light of image theory and the psychology of perception, Kalantzis, Cope & Pinheiro (2020) go on to show that learning environments influenced by multimodality raise students that can apply and reproduce a visual design. Moreover, according to Kress (1989), as cited by Ballocco (2014, p. 65):

"genres are types of texts that encode the characteristic features and structures of social events, as well as the purposes of the discursive participants involved in those events. Thus, textual genres (oral or written) constitute an 'inventory' of social events from a given institution, or they express conventional aspects of those social practices, with different degrees of ritualization."

Therefore, an understanding of games as a multimodal genre needs to take into consideration all its social semiosis, that is, its rhetorical analysis must include the verbal and non-verbal aspects. On top of that, we must consider the specific

characteristics of this media such as level design, game mechanics, and the most universal characteristic of games as a media format/art form: the game interactions.

3 METHODOLOGY

3.1 CONTEXT AND RESEARCH QUESTIONS

This is a qualitative study based on a survey aimed at gathering information about which games of a selection of acclaimed titles, which fit Gee's (2005) aspects of good games, are the most played by the academic community, also what characteristics of these games people consider the most important, what platform they play on, and if they were interested in exploring such games in English as a foreign language (EFL) extension courses.

To choose the game under analysis we developed a survey and asked the academic community from UFSM to answer it, characterizing this as a case study (MOTTA-ROTH; HENDGES, 2010). Based on the data collected, we did a social-semiotic multimodal analysis of the game TLOU2's aiming to find answers to the following questions:

- a) is it possible to identify in the game TLOU2 semiotic resources that help to develop the ludo-narrative and system-gameplay dimensions as proposed by Pérez-Latorre, Oliva & Besalú (2017)?
- b) to what extent the analysis of these dimensions can contribute to language learning when exploring this game in a game-based classroom?
- c) how can we explore the audiovisual narrative of TLOU2 to teach languages?

3.2 INSTRUMENTS OF DATA COLLECTION AND PROCEDURES OF DATA COLLECTION

To collect the data for this study, first, we applied questionnaire A in the second semester of 2020. This research instrument contained 18 questions organized into four sections: first, information about the participants' academic background; second, questions about their previous gaming experiences; third, what they consider the most important characteristics of good games; and fourth, what

games they perceived as having potential uses as assisting learning tools in EFL teaching² and their interest in this approach. The synthesis of this instrument's categories is presented in Table 1.

Table 1 - Questionnaire A, entitled "Pesquisa sobre o uso de Jogos por Estudantes Universitários"³.

Research questions/ Category?	Questions from the questionnaire
Category 1 Participants identification and academic background	1- You are [gender]?
	2- What is your age group?
	3- What is your education level ? 3.1- In what institution do you study?
	4- In which area of knowledge do you study?
	5- You define yourself as a [adjective determining level of experience] player.
Category 2 Participant's experience and game interests	6- What is the device you most often play games on?
	7- Among the games below*, which do you consider the best? (choose up to 3 options). *These games represent their franchises.
	8- If you play on a smartphone, please, cite your favorite game on that device.
Category 3 Participants' opinions about games related to...	9- What factors do you consider the most important when measuring the quality of a game ?
	10- In your opinion, what constitutes a good narrative in games?
	11- What adjectives better define the characteristics you look for in videogame protagonists?

² It is worth noting that the game has full translation in many languages, so we understand that its use is not necessarily limited to EFL teaching contexts.

³ The complete systematization of collected data is available in the following Google Drive link: https://docs.google.com/document/d/11AnbLdCx_MuMdgosniym2OBSyYO_eM5lcEJ1WofbSgM/edit?usp=drivesdk

	12- In your opinion, what creates engaging gameplay?
	13- When you play a game, what language do you prefer it to be presented in? Portuguese, English, Spanish? Another option? Why?
Category 4	14- In your opinion, is it possible to learn English while playing a game? Why?
	15- Do you think that any of the games you chose in question number 7 has potential for use in English teaching contexts? If so, which of them (one or more)?
	16- Are you interested in participating in online extension activities at UFSM with a focus on English learning while involving one of the chosen games? 17- If you answered affirmatively in the last question, add here your email for further contact.

Source: author's archive (2020).

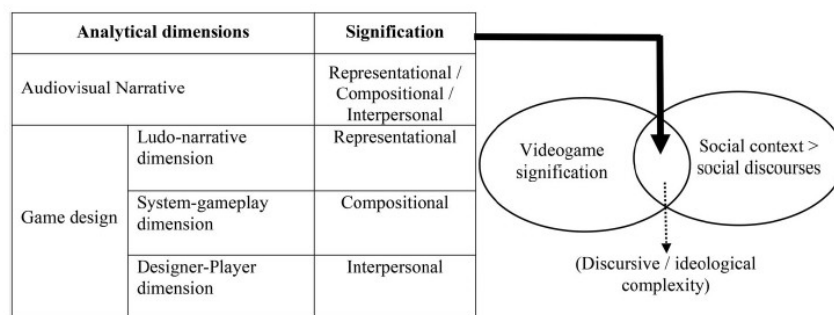
The second step was collecting data from TLOU2's gameplay⁴. We chose the Downtown Seattle area near the beginning of the game as the corpus, because we understand that is the one section most representative of the gameplay, as it has a large area relatively isolated from the rest of the game and it realizes the complete gameplay cycle of exploration, combat, and narrative development (dialogues and story cutscenes). After that, a qualitative multimodal analysis of the corpus was conducted, pondering the game through a social-semiotic lens.

3.3 PROCEDURES AND CRITERIA OF DATA COLLECTION AND ANALYSIS

The criteria of analysis followed two social-semiotic dimensions observed by Pérez-Latorre, Oliva & Besalú (2017), which are the ludo-narrative and the system-gameplay. Even though the complete framework has a total of four categories (see Figure 1), we delimited our view to the representational and compositional meanings present in the game to better typify those two inside this study's scope.

⁴ It is worth mentioning that a TLOU series has been released in the video streaming service HBO Max in January 2023. Although it adds evidence to the popularity of the franchise and its reach as an entertainment product, that piece of media has no direct influence on this paper.

Figure 1 - The complete social-semiotic design.



Source: Pérez-Latorre, Oliva & Besalú's (2017).

To do this, we proceeded to the gameplay of the Seattle Downtown area, as previously mentioned. There, we could explore in a nutshell the events that are representative of the gameplay cycle found in the entire game, as analyzing all TLOU2's content is outside the scope of this study. After that, based on Reis (2017), we looked at the data to propose some didactic possibilities for the use of TLOU2 as an assisting learning tool in language teaching contexts.

3.4 PARTICIPANTS' IDENTIFICATION AND ACADEMIC BACKGROUND

A total of 18 people answered the questionnaire applied remotely in the first half of 2020. The teaching institution of most participants was UFSM, while 88.9%; UNIPAMPA and the *Universidade Federal do Ceará* (UFC) had 5.5% of responses each. In addition, the participants came from the areas of: Linguistics, Letters and Arts (27.8%); Stem and Earth Sciences (22.2%); Human Sciences (16.7%); Engineering (16.7%); Applied Social Sciences (11.1%); and Agricultural Sciences (5.5%).

Among the students who answered the form, 52.9% identified themselves as men and 47.1% as women, with 55.6% of students aged between 18 and 24 years old, and 44.4% of them ranging from 25 to 31 years. Regarding the level of education of the participants, 88.9% indicated that they were attending an undergraduate degree, while 5.5% were acquiring a master's degree and another 5.5% a doctorate. In addition, the participants came from the areas of Linguistics, Letters.

4 DATA ANALYSIS AND RESULTS

4.1 PARTICIPANTS' GAMING EXPERIENCE AND GAME INTERESTS

Most students defined their level of experience with games as experienced (38.9%) and intermediate (38.9%). As for the devices most used by the participants to play games, 94.5% of them said that they play more often on the computer and/or smartphone (72.2% only on PC and 16.7% only on mobile), while 5.5% play on the PlayStation platform.

Regarding the favorite games of each participant, the franchises GTA, Pokémon, The Last of Us, God of War, and The Witcher obtained more than 20% preference each. By the nature of these games, we can infer that most of the participants prioritize action games with a solid narrative as a backdrop.

On the other hand, most participants did not choose smartphones as their favorite device for playing games, and for specific smartphone games, only Among Us (30%) and Free Fire (20%) were cited more prominently. The participants also mentioned several other games, some better known, like Clash of Clans and Sudoku, others more obscure, like Cythus. From this, we can infer that, when using mobile phones, most of these players prefer games with a mix of action and strategy.

4.2 PARTICIPANTS' OPINIONS RELATED TO GAMEPLAY, NARRATIVE, AND LANGUAGE USED TO PLAY

In our hypothesis, we aimed at identifying if English is still the most used language to play since nowadays most of the famous games are translated into other languages. According to the data collected, 14 of the 18 participants answered that they prefer to experience the game in English, which is considered the original language of most videogames by some of them⁵. The other students would choose to play in their mother tongue, Portuguese or Spanish, if possible and one student put Korean as a third option.

When asked which factors are the most important in determining the quality of a game, 94.4% of the participants chose good gameplay, 66.7% chose good narrative/story, 55.6% chose good graphics, and 5.6 % chose realism and sound quality. In this regard, we understand that gameplay (or interactivity), as the most

⁵ We did not find any data on this, but it seems to actually be the case that most videogames are produced with English as the basis. Most programming languages use it and it is not hard to recall many big companies outside English speaking countries that launch games in English, often in favor of their native tongues (e.g. Ubisoft, CD Projekt Red, Sega, Nintendo, among others) because of the language's influence on the global market.

specific and defining aspect of this medium, is naturally the main factor to consider when choosing games as entertainment.

On the other hand, the greater preference for narratives compared to graphics, realism, and sound quality is not obvious. We can say that, roughly speaking, the narrative is constituted by the sum of all the texts of a game, thus, it includes all its linguistic and artistic aspects. Because of this, we consider that an engaged player may learn simply by experiencing the game with a story goal or personal objective in mind, that is, a drive to understand the communicative features of the medium they are a part of when playing.

More specifically regarding the narrative, the participants understand that the characteristics that constitute a good narrative in games are mainly six: well-developed characters (83.3%); possibility of following different paths in history (77.8%); immersion in the character (72.2%); well-written dialogues (50%); cutscenes/cinematic scenes (38.9%); and social criticism (27.8%). One participant also cited "dialogue trees" as an attractive factor, which means a conversation with two or more options to choose from when interacting with non-player characters (NPCs).

In relation to what is a good protagonist in game narratives, more than 20% of participants chose the following adjectives to define them: strategist (72.2%); intelligent (66.7%); explorer (55.6%); strong (38.9%); courageous (38.9%); emotional (38.9%); smart (38.9%); and relentless (22.2%). For the participants, in regards to generating a game's engagement, the factors that contribute the most to good gameplay are puzzles and/or other reflection exercises (72.2%); action (66.7%); strategy (66.7%); collectibles (50%); crafting (33.3%); and stealth (27.8%).

4.3 ENGLISH LANGUAGE LEARNING BY USING GAMES

In the survey, through question 7, we asked the participants about their understanding of the use of the games mentioned there as language teaching tools. When asked about the possibility of learning English while playing, only one of the participants answered with a negative. For the other 17 students (each with their reservations) games can indeed be an important factor in the process of learning a foreign language.

Additionally, eight academics showed interest in continuing to participate in the research and provided their email addresses for further contact.

4.4 WHY THE LAST OF US - PART II?

After the systematization of the data, we used a sum of factors to choose the videogame with the most universal praise across all categories evaluated and while TLOU finished as the third in personal preference (two votes behind the first, which was GTA), its complex narrative and characters, its visual appeal, its well-developed mechanics, and its perceived potential for educational uses were ultimately determinant in its selection. We chose to analyze TLOU2 because TLOU1 had already been the subject of the case study by Pérez-Latorre, Oliva & Besalú (2017), which uses the same framework we work with in this paper.

4.5 THE LAST OF US - PART II GAME ANALYSIS

The data collected by the survey led us to the game analysis. In order to do this, we conducted a social-semiotic multimodal analysis of the game TLOU2. In this analysis, first, we introduce a contextualization of the TLOU franchise. The games were produced by the renowned studio *Naughty Dog*, which is owned by *Sony Computer Entertainment*. The first game, TLOU1, revolves mainly around the father-daughter relationship between the two main characters, Joel and Ellie, and their effort to find a cure for the fungal infection that has taken over the world.

Ellie is immune to the disease and they hope to extract a cure from her organism, however, they need to cross a United States plagued by what are called "the infected"⁶ (see Chart 2) in order to find the scientists from a group called the Fireflies, which are the only ones who have the materials needed for studying Ellie's case. Regarding gameplay and story, the importance of both protagonists is central and the death of either of them means defeat.

While "the cure" is the main goal in the first game, in its sequel, TLOU2, this theme is mostly left out of the narrative and the focus becomes Ellie's goal of avenging Joel's murder. For this reason, the secondary/helper character, although a useful ally in some situations, is not as important to the gameplay or the story as Ellie was to Joel in the previous installment of the series. Nonetheless, in the last half of

⁶ People who had their bodies taken over by the *Cordyceps brain infection* (CBI) and now act much like what are commonly referred to as "zombies" in mass media.

TLOU2, a similar dynamic to TLOU1 is present, whereby Abby (the game's second protagonist) must take care of a transgender boy called Lev, who was expelled out of his community when he decided to identify himself as a male.

The main focus of the game is its story, which is told through frequent movie-like quality cutscenes, while the action and exploration parts are also very polished and widely considered very good. According to the famous game review website IGN.com (2020), "The Last of Us - Part II is a masterpiece that evolves the gameplay, cinematic storytelling, and rich world design of the original in nearly every way". For this reason, the players' experience tends to be enjoyable if they like both good story, exploration, and action, a formula the developers at *Naughty Dog* have refined over the years, making it the studio's main appeal in the franchise (IGN.COM, 2020).

4.5.1 Contextual language analysis: subject matter, participants, mode and medium

Regarding game genre, TLOU2 can be defined as an action-adventure survival horror title (FANDOM.COM, 2018⁷). In fact, although TLOU2 has many instances of heavy action gameplay, the general focus is on survival, as resources are mostly scarce, and the player must think carefully before taking decisions to avoid finding themselves in very difficult situations in the near future.

Aiming to develop a systemic functional analysis inside this multimodal genre, we tried to identify the subject matter discussed in the game, which roles the participants assume in this context (the player, NPCs, or the game design), and the relationship among the participants as well as the mode and medium used to convey and deliver the message through different semiosis. In Chart 1 below, we summarize the main information.

Chart 1 - TLOU2's language interaction context.

Game TLOU2 - Language Interaction

⁷ https://thelastofus.fandom.com/wiki/The_Last_of_Us

Subject matter: post-apocalyptic⁸ dystopia⁹.

Roles: gamer as information receiver and action agent.



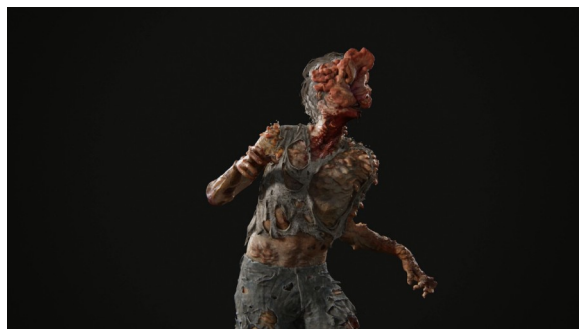
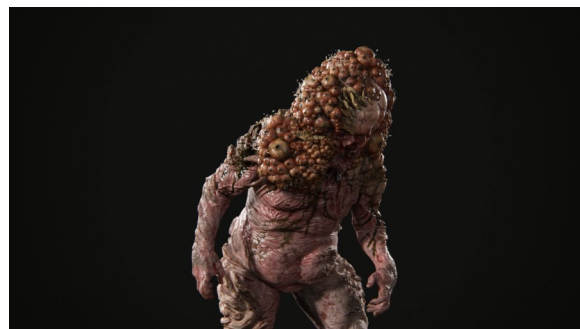
Relationship (between the participants): distant.

Mode: multimodal.

Medium: Sony Playstation 4™ game console (PS4).

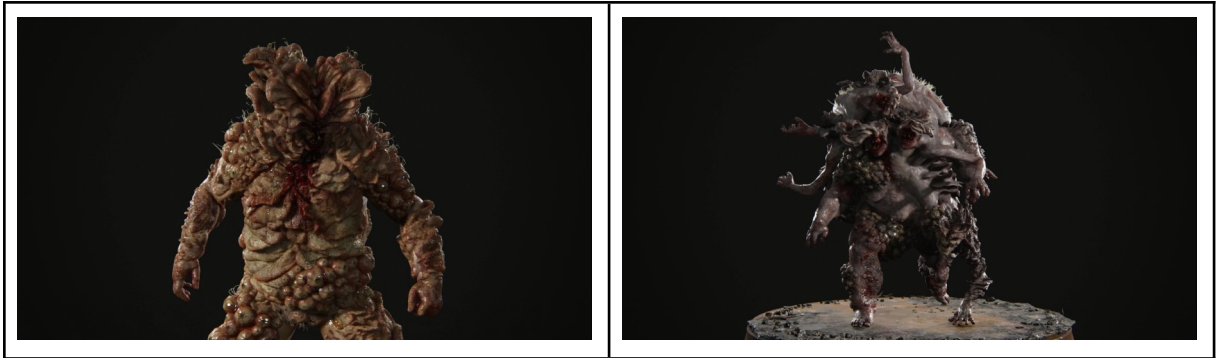
Chart 2 shows the different types of infected presented inside the game, which also illustrate the thematic behind the TLOU universe.

Chart 2 - The infected.

Runner (fast, but physically weak)	Stalker (fast and stealthy, but physically weak)
	
Clicker (fast and moderately strong, but blind)	Shambler (strong and durable, but slow)
	
Bloater (strong and durable, but slow)	Rat King (boss fight - very strong, very durable, and moderately fast)

⁸ A synopsis of the games can be found at https://thelastofus.fandom.com/wiki/The_Last_of_Us.

⁹ This definition considers the common sense view commonly associated with this type of science fiction story. However, in the game, the post-apocalyptic dystopian context is more often referred to by the characters as what we would now recognize as a post-pandemic era, as they often call their historical period (2030's) "after the outbreak...", while the time before the CBI reached critical mass in the human population is called the "old world".




Source: Naughty Dog/Sony Interactive (2020).

4.5.2 Roles inside the TLOU2: the gamer assuming the protagonism

In TLOU2, we take control of Ellie and Abby (see Chart 3), each a member of a post-apocalyptic community in western USA in the 2030's decade. These characters have their paths crossed when Joel (Ellie's father figure) is killed by Abby and her group as revenge for Joel having killed Abby's father years ago, something he supposedly only did to save Ellie. Because she is immune to the CBI, the plan of the Fireflies (the group which Abby's father was a part of) was to remove her brain and conduct studies on her immunity, which was something Joel was not willing to accept. After the murder of Joel, Ellie starts to follow Abby's trail in order to also have her revenge. Thus, a cycle of violence was created, and this is much of what makes the game heavily emotional and tense, aside from the constant infected threat found all over the game's scenery.

Chart 3 - TLOU2 main characters.

<p style="text-align: center;">Ellie</p> <p style="text-align: center;">Roles: 1st protagonist / 2nd antagonist¹⁰:</p>	
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¹⁰ The game has two protagonists who also assume the role of antagonists for roughly half of the story, as they have opposing points of view and we play through both of them.

	
<p>Abby</p> <p>Roles: 1st antagonist / 2nd protagonist</p>	 

<p>Dina</p> <p>Roles: Ellie's girlfriend and in-game companion</p>	 A character model of Dina, a woman with dark hair, wearing a brown leather jacket over a dark shirt and blue jeans, standing against a black background.
<p>Lev</p> <p>Roles: Abby's friend and in-game companion</p>	 A character model of Lev, a young boy with a shaved head, wearing a light-colored tunic and pants, holding a bow and arrow, standing against a black background.
<p>Joel</p> <p>Roles: Ellie's father figure and conflict catalyst of the story</p>	 A character model of Joel, a man with a beard and long hair, wearing a brown leather jacket and dark pants, sitting on a chair and playing an acoustic guitar, standing against a black background.

Source: Naughty Dog/Sony Interactive (2020).

After personal observations while playing the game, we recognized that TLOU2 has a rich multimodal interactive environment due to its open world mechanics and the large variety of landscapes, architecture styles, and general details presented in the game's environments, or what we may call the "gameworld".

Previous experiences in our research involving educational games¹¹ showed that if gameplay and story (with movie-like qualities) are both well-developed in a game, the chances of it being appealing to a bigger audience are higher. For this reason, TLOU2 can be considered a good example of a game that is capable of generating engagement of players, thus, to one who knows at least some of its features, its potential as a learning tool becomes apparent even before further analysis. However, only a thorough look at its gameplay, mechanics, and storytelling can establish what parts of the experience have potential for use in language learning specifically.

4.6 APPLYING PÉREZ-LATORRE, OLIVA & BESALÚ'S (2017) FRAMEWORK TO TLOU2

4.6.1 Ludo-narrative dimension

Based on Pérez-Latorre, Oliva & Besalú (2017), it has been understood that the ludo-narrative dimension of a videogame "deals with the representational value of game design, and its connection to audiovisual narrative ('ideational function')" (p. 591). Considering this, it is important to analyze the representation of the character/player.

In TLOU2, the player assumes the roles of characters who are seasoned survivors adapted to a fungus-plagued world. Most of them have basic knowledge in armed and melee combat, also knowing how to create basic weapons and medic kits out of the resources they find along their journeys, like scraps of paper, alcohol, blades, nails, bottles, gunpowder, scotch tape, among other materials. Therefore, these characters are represented as tough generalists who will do whatever they can to win a fight, even using what are commonly called "dirty tactics". In this sense, the players learn that the only true rule is to keep themselves and the ones they love alive, and the game's visceral violence reflects this unending battle for survival.

As most games, TLOU2 has two final states: winning, or finishing the story; and losing, which means letting your character die during gameplay. The rules that govern these states are: to win, the player needs to go through all the game's obligatory areas and enemy encounters, surpassing all hardship in the way, that is,

¹¹ See Gazen, Reis and Gomes (2020).

the player must explore the world to find resources for survival and prevail in combat encounters, either by killing the enemies or by escaping them with success; to lose, the player needs to fail at accomplishing the winning state, not only that, the player needs to give up trying again since there is no permanent "game over" screen and it is always relatively simple to try again or lower the game's difficulty settings to turn what may seem a very complicated challenge at a greater difficulty level to a more palatable endeavor.

4.6.1.1 Representation of the fictional world

In this category, we include the design of the space-time environment, rules of specific areas and states of the game, NPC behavioral patterns, operating rules of objects/instruments, representation of activities, and patterns of action. Since TLOU2 has many instances of heavy action gameplay, the general focus of the game is on survival, as resources are most scarce and the player must think carefully before taking decisions to avoid finding themselves in very difficult situations in the near future.

Based on this, thinking of the representation of a fictional world, the victory condition is to defeat enemies and solve puzzles found in the gameworld, allowing the player to progress. If they manage to do this in every area of the game, the player achieves the final resolution and "finishes" the game. On the other hand, the defeat condition is to let the controlled character (Joel/Ellie/Abby) die, which happens when the player runs out of the life points represented by the gray bar surrounding the active-weapon wheel (see Figure 2).

Figure 2 - Health bar and active-weapon wheel.



Source: Naughty Dog/Sony Interactive (2020).

In relation to game mechanics, the TLOU2 counts with a collecting system that creates what we may call "incomplete redundancy", whereby the number of items

you can collect, though less than necessary to be too comfortable while playing, is always greater than the number of things you can carry at one time. Therefore, the game's redundancy is not completely realized in the sense that the big limitations on carrying capacity (even after applying all the possible upgrades) are an artificial regulating factor which makes some redundancy possible, however it is never guaranteed or even encouraged to be expected. On the other hand, the variability factor, which is closely related to the previous one, comes to heighten what we can call the "perception of choice", that is, through a big set of different items to draw from, allied to the game's redundancy factor, it exerts on the player a sense of complexity, scarcity, and hardship which tends to bring a feel of greater realism to the gameworld.

In relation to signifying potential, we identified some categories inside the game's ludo-narrative dimension, all them linked to realism and immersion.

Firstly, the world is represented by a photorealistic aesthetic, a characteristic that tends to make the suspension of disbelief easier, therefore, providing an immersive context for players. Moreover, all the weapons present in the game are based on real equipment, even though the way of crafting them in the game is less loyal to the real ones.

Second, we have letters and texts notes, that, aside from official documents, are represented with handwriting, usually yellowed paper, eventually blood stains, scratches, and tears. For the convenience of users, all these writings show the option "read", which allows them to be seen in an overlaying digital text box with clearer fonts and a good size; some of them also have information on the back that can be accessed via the "flip" option.

Furthermore, the active-weapon wheel presents the current equipped weapon as well as how much ammo/uses it has, it also shows the health bar (see Figure 2), which indicates how much damage the character can take before they die. While there is no clear indication of what attacks deal more damage, as the game is played it is possible to understand what poses a bigger threat through trial and error (e.g. if the player does not have a knife to counter, an approaching Clicker can jump at the character and execute an instant kill by biting their neck).

Finally, in terms of characters, four are especially important when thinking of the social impacts of in-game representations: Ellie and Dina are a lesbian couple

which display their affection physically, something that is still uncommon for most games; Abby is a physically very strong woman, an image that may lead to prejudice as she stands out from the usually expected standards in most media; and Lev is a transgender boy with shaved hair, possibly breaking two preconceptions at once. Although it is impossible to evaluate how these factors impact players individually, we can assume there are going to be different views on these subjects, even though they are, to some extent, underdeveloped in the game's context, that is, the creators may have chosen to keep these themes more contained as a form of avoiding possible public backlash.

In conclusion, the representational semiosis of the game serve to create an immersive environment, where users can expect physics responding similarly to the real world and realistic human characters with believable emotions.

4.6.2 System-gameplay dimension

TLOU2 presents a gameplay units (problem-solving patterns) structure in which the main objective of each area in the game is to find a way to the next narrative checkpoint (always marked by a story cutscene), which might go through a passing a locked gate that needs a number combination, getting an item which is in a specific building, saving a friendly character from enemies, finding a clue about the location of an enemy character, among many others. These objectives are informed by cutscenes, journals, in-world character dialogues, and missions logs. The gameplay loop usually involves, in no specific order, a mixture from sections of combat, exploration (searching and collecting useful items), light-puzzle solving and/or scenario traversing challenges, upgrading weapons at a workbench, and watching a story cutscene.

In relation to the game mechanics, shooting is the main combat-related one and the go-to option when facing enemies in TLOU2. On the other hand, melee attacks are often a last resort effort, besides when the player uses them strategically to save ammunition. Also, traps, grenades, and stun tactics are the supporting combat options, as these are much more circumstantial than the others. Even so, these tactics can be extremely effective when trying to kill enemies or leaving them vulnerable for a last strike if used with careful thought and/or in tandem with shooting and melee attacks.

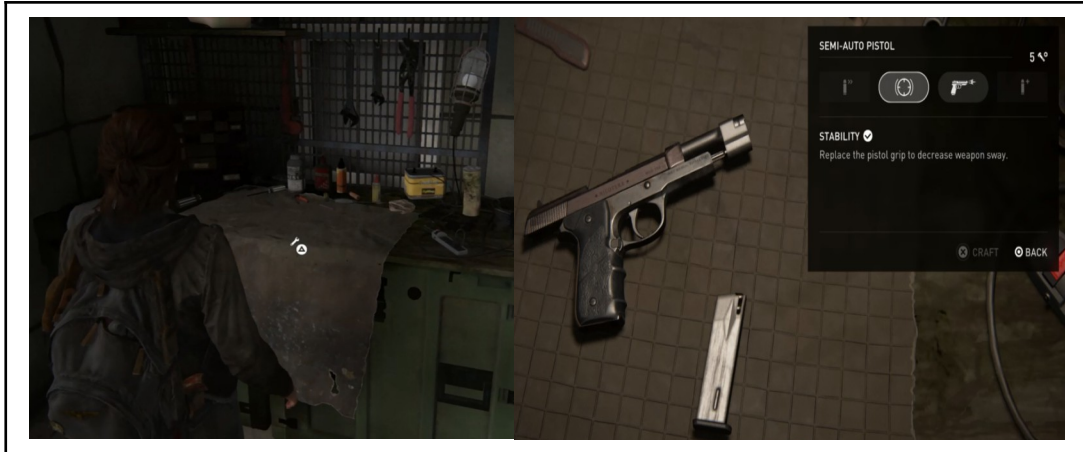
In addition, collecting and crafting in TLOU2 are very important activities, since finding items is an integral part of the gameplay, and the crafting system is paired with it, allowing the players to create useful tools that will help their progress in the game. Collecting, as it is in the game, can be divided into two actions: exploring and looting. In the former, the player searches the scenario for leftover parts or collectibles (affective value items, like coins and play cards), and in the latter, they search corpses to pick up dropped resources; these are the ways to find useful ingredients for crafting recipes. Such recipes indicate to the player what they need to create each tool, while the inventory shows how many of these items they currently possess and how much they can carry.

As it is widely known, crafting is the action of using manual skills to turn a set of simple resources into useful items. In the game, it acts by keeping the player competitive in increasingly difficult scenarios, being one of the main pillars of gameplay progression¹². Also, as crafting items are scarce, creating a specific medication, tool or weapon brings to the player a sense of control and responsibility that elevates the interaction with the gameworld through this encouraged careful management of the resources found during exploration, puzzle-solving, and combat.

Moreover, TLOU2 possesses two upgrade systems, one is character and crafting-related and the other is firearm-related. In the first, the player can improve health, hearing, healing skills, and melee or craftable weapons through reading manuals or taking supplement pills; in the second, the player can use the workbench found all over the gameworld to tweak firearms with specific metal scraps they collected (see Figure 3).

Figure 3 – Workbench gameplay montage.

¹² This term refers to the tendency videogames have to become increasingly complex and/or difficult as they get closer to the end.



Source: Naughty Dog/Sony Interactive (2020).

In TLOU2, playing stealthily is a very important skill for players to learn (see Figure 4). Stealth is a game mechanic found in many well-known videogame titles and nowadays, much as is the case with RPG¹³ elements, it has become the norm for developers to try and include it to some capacity in most action games. In TLOU2, this inclusion feels natural, if not obligatory, as dealing with various enemies at once, be they infected or human, can be a very difficult task. While the latter are very active and try to flank the player with strategy being reasonably intelligent, the former are a much more visceral threat because they attack in bands and often disregard even their own safety.

Therefore, it often is preferable to avoid direct combat at least until the player has found a way to acquire some sort of advantage. In this case, being evasive, not letting the enemy be aware of your presence and attacking from the shadows can be a very useful strategy. On the other hand, acting this way instills a sense of danger and suspense to some areas, as sometimes even the slightest of noises can trigger an unrelenting chase.

Some players prefer to play the entire game as such and, in greater difficulty levels, where mistakes are almost always punished with death, stealth is basically a need to progress. There are three basic strategies when using stealth in the game: hiding in the shadows and creating distractions to attack at an opportune time; throwing enemy groups against each other to lower their numbers and facilitate your

¹³ The RPG (role-playing game), specifically in its videogame versions, is one of the most long-standing and successful game genres. Usually known for the complexity of their battle mechanics or their extensive and well-developed stories, RPGs are increasingly being used as reference for making games from other genres more engaging to players, to the point that the terms "RPG-like" and "RPG elements" are now common sense among most gamers and game critics.

advances; and avoiding encounters completely. The first is the most straightforward option and will work most of the time if the player is patient and mindful in regards to the environment they are in; the second is a high risk/high reward situation, where the player can possibly get rid of all targets without much effort or end up alerting all enemies at once to their presence, thus greatly increasing their problems; and the third maybe the most difficult strategy to pull off, as some places are closely guarded and it is almost impossible to go by without conflict, even then, it can be a good way to advance when low in resources or for saving resources for the next scenarios¹⁴.

Gameplay-wise, in order to successfully implement stealth strategies, the player has some options: making distracting noises by throwing bricks or glass bottles to direct enemies to more advantageous positions; crouching or crawling to make less noise and/or behind cover, tall grass, and water; using the characters' heightened sense of hearing to locate enemies they cannot see; and performing stealth kills (which generate no noise) by surprise attacking stray enemies in vulnerable positions (e.g. attacking from behind, from the shadows, or from tall grass) or by using silent weapons like the bow and arrow or the handgun with an improvised silencer.

Figure 4 - Stealth gameplay montage.



¹⁴ On this note, it is worth mentioning that, aside from harder difficulty levels, saving resources too often is usually not a good strategy in TLOU, as the amount of items the player can carry is so limited they are able to save any significant quantities of anything. Therefore, spending too little resources can be as much of a waste as spending too many and the best strategy lies in the balance between both.



Source: Naughty Dog/Sony Interactive (2020).

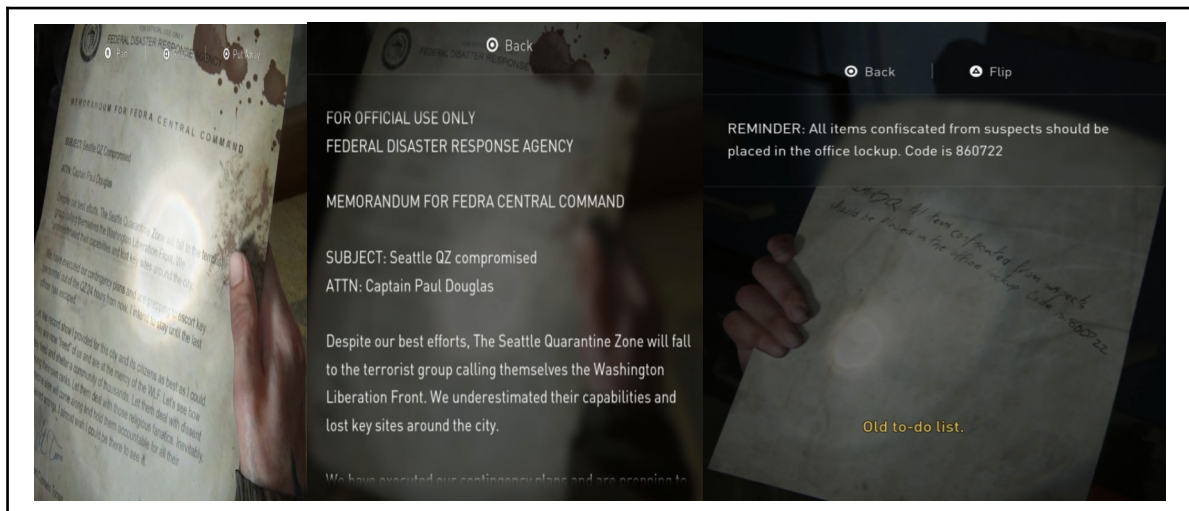
The game also has simple puzzle-solving mechanics, which are placed in such a way as to make the bonds between the current coupled characters stronger, as they need to cooperate to get by obstacles that they would not be able to overcome individually. Many times, these challenges consist of traversing obstacles the player can overcome by using the help of the companion character.

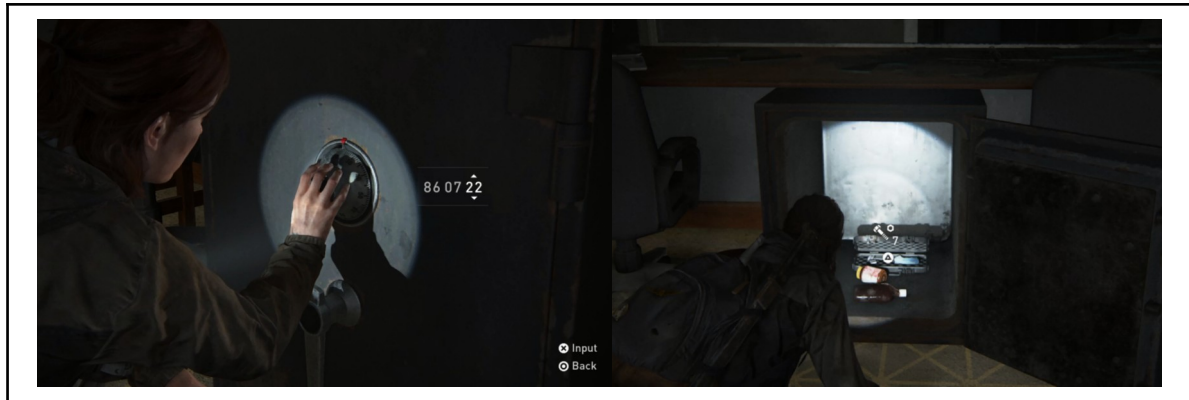
Even though the puzzle-solving mechanics are not very complex, as they are not the main focus of the gameplay, they also help in creating a sense of scope to gameworld, however more so in time than in space. This perception comes from the journals, notes, memos, and other written messages found all over the scenarios. Most of these texts were left behind a long time ago by characters who crossed by or lived in those same areas, although they often seem to have been facing very

different situations. This helps greatly in telling the story of a place and making it feel more real: robbers planning a heist on a bank on the day of the outbreak; marauders invading homes seeking resources to survive at the expense of innocent families; soldiers fighting tirelessly to stop the undead menace only to realize they were losing the war and that it all had become a battle for survival against other human beings (see Figure 5); or normal people going through their lives in the days before the outbreak, planning a trip with a loved one, scheduling business plans, sending a heartwarming love letter, leaving a note for a workmate, or writing about a significant life experience in their personal journal.

Practically speaking, when the players read these texts, what most of them want is some clue on how to make the gameplay easier or more fun, either by showing the location of some useful items, the combination to open a locker full of goods (see Figure 5), the directions to the next story objective or the solution to a puzzle. However, sometimes it all can evoke, even if only for a short time, a sense of discovery that brings another level of complexity to the exploratory parts of the gameplay.

Figure 5 - Puzzle-solving gameplay montage.





Source: Naughty Dog/Sony Interactive (2020).

All the aspects in the system-gameplay dimension form the compositional meanings in the game, that is, the sum of the representational meanings and the player interactions. Therefore, to look at this dimension is to consider how the signifying potentials induce intended the user experience and how all the game's mechanics are subordinated to these practical parameters. In this sense, we can cite item scarcity and story linearity as main factors for influencing players' behaviors: the first makes sure that the user needs to think at least twice before crafting something, breaking cover, using a weapon, or even entering a dark room, as unused or poorly used items and unplanned encounters can be very costly; while the second is a result of the developers' choice to make the experience more straightforward in the spatial progression of the gameplay, often forcing players into a single option to advance the story, where every scenario, although exhibiting many pathways, always has only one true exit route.

Scarcity is conveyed in the gameworld through the limited amount of items found through exploration and looting, which make the user less comfortable while playing, but also much more conscious and aware of their surroundings when searching for materials, as losing some of what is already lacking could represent a considerable problem later.

Story linearity, even if not well-seen by many players, allows a game to construe a more cinematic narrative because it allows better polish in the script as there are less lines of dialogues than in non-linear games. It also brings predictability for the game, as story moments, be they dialogues while exploring the scenario or watchable cutscenes, can help lower the stress of combat encounters by giving the

player a much-needed sense of safety and rest, a moment of tranquility in preparation for the next steps.

With all these factors in mind, we follow to the next sections to consider the TLOU2's uses in language teaching contexts.

4.7 PEDAGOGICAL IMPLICATIONS AND TEACHING POSSIBILITIES

As we can infer from the analysis above, TLOU2 has many instances where the interaction can be creative and rewarding for users, using its semiosis to communicate not only a complex narrative (generally considered well-constructed and engaging (IGN, 2020)), but also the ways in which its gameworld can suffer influence by the players. With these assumptions in mind, it is not hard to bridge the gap between this source of engagement and the possibility of directing such potential for educational contexts, where it is commonly known that one of the complaints of teachers is the lack of interest coming from students in regard to what we may call "regular classes".

Previous research (REIS et al., 2012; REIS & GOMES, 2015; REIS, 2017; GOMES & REIS, 2018) shown that activities involving videogames or game-based elements have at least two main ways of unfolding: a) using the product itself, making it playable in class (this is the preferable route, as the main drive behind using a videogame is its interactivity); b) using excerpts from the game and exploring some aspects of its game world that do not necessarily require interaction to get their message across.

In TLOU2's case, these activities must take into account the access to the game itself in a classroom due to its platform restrictions, that is, at this time it is only available to play on the PS4 system. Because of this, the suggestions below do not include direct gameplay, instead, we may call it indirect gameplay, whereby the student does not play the game but watches gameplay instances from other players, a practice that is actually very common among new players and people who like to watch their friends/partners play (generally, because they are considered better players).

We believe the extent to which the educational applications of the game's vast gameworld, not mentioning its long and complex story, could not possibly be apprehended by this study alone. Even so, below we tried to enumerate some ways

the game could be used as an auxiliary tool in language teaching classes. Some of these activities require (but are not limited to) no more than some YouTube videos, which are significantly easier to get access to than a playable copy of the game and a PS4 system. Naturally, the possibility of using these options does not exclude also using the gameplay-based ones with the same group of students, if the materials for such are available.

The following suggestions have as the main target public college students, the same group that answered our form in the beginning.

4.7.1 Representational possibilities (no gameplay required)

- Narrative: present the cutscenes of the game in a movie-like format (available on YouTube) to explore the narrative in different ways. One idea is to show students scenes with dialogue and bring questions based on pronunciation and listening involving that scene, also making story quizzes and writing activities about creating new paths for the story; another way is to develop writing activities involving the sexual orientation/gender-related questions presented by the game: the lesbian couple, the transgender boy dilemma, the strong women, the fall of the patriarchy, and how prejudice still lingers in this new world (this theme could be paired with some real events to promote discussions about diversity).

Suggested materials: TV/PC/Smartphones for YouTube videos; writing materials.

- Puzzle-solving: make a quest for students to solve puzzles by examining the textual notes found in the gameworld. Moreover, the teacher can produce new situations based on the contexts found in the notes as examples, promoting writing activities about potential new unfoldings for those stories and possible crossing paths between these supporting characters that are not shown in the game. This can also be used to generate new puzzles with totally new interactions in mind.

Suggested materials: TV/PC/Smartphones for YouTube videos; cardboard, EVA, and tools for cutting/pasting these materials; writing materials.

- Crafting: use the recipes found in TLOU2 to create analogic games about construction with real materials, using the semantic fields related for students to learn about crafting, while also exploring the history of the professions that can be that inspire those activities in the game, like: nurses and medics, mechanics, engineers, armorers, military survivalists, artisans, or even journalists and sketch artists.
Suggested materials: TV/PC/Smartphones for YouTube videos, cardboard, EVA, and tools for cutting/pasting these materials; any other crafting materials' analogs; writing materials.

- Collecting: create events for collecting challenges inside the school environment, splitting the students in groups with communications restricted to the target language and promoting vocabulary acquisition through the instructions.
Suggested materials: TV/PC/Smartphones for YouTube videos; cardboard, EVA, and tools for cutting/pasting these materials; Smartphones with any texting apps.

4.7.2 Compositional possibilities (gameplay required)

- Narrative: explore the narrative in the beginning hours of the game and promote a debate about the game's main theme: vengeance. First, the students should be divided in groups, each playing as one of the protagonists (Ellie, Abby, and Joel) and players must be alternated after a cutscene. Later, the groups must take part in a discussion where they will bring arguments to defend their side of the story in the target language. The teacher may provide guidelines for argumentation and mediate the debate, while also approaching the positives and negatives of each point of view and their consequences. This process can be repeated for the entire narrative, taking all the protagonists' confrontation instances to foment the discussion.
Suggested materials: PS4 and a copy of TLOU2 for gameplay, writing materials.

- Puzzle-solving: pick puzzle sections of the game and describe their solution to the students in the target language, in oral and/or written form, using images from outside the game to make early signifier-significant correlations. After that, the students shall play the game and solve the puzzles with tips turned off (altered in the setup options from the main menu). The teacher may also turn off the subtitles or even the game's sound depending on the objective: more focus on reading or on listening.

Suggested materials: PS4 and a copy of TLOU2 for gameplay.

- Collecting, Crafting, and Combat: in the Seattle Downtown area of the game, give students a list of crafting materials they must gather to craft a certain number of items to play the game stealthily, then they need to use these items against a group of enemies. After that, they must describe in the target language how they found the necessary crafting materials and what strategy they used to defeat the enemies. Another possibility is to play the game in the hardest difficulty, called "Grounded". In this instance, players must cooperate in the target language to overcome the challenging combat scenarios together. Suggested materials: PS4 and a copy of TLOU2 for gameplay.

These suggestions consider the social-semiotic aspects of the game while trying to make the activities interesting to students, be they gamers or not. The learning curve for the controls should not be too difficult if the students play the game from the beginning, which serves as a natural tutorial. In case the teacher sees that the commands might be a problem, there are very didactic and in-depth tutorials for all inputs on YouTube.

Before any play session, it is advisable that the teacher establishes some general rules. For example: the player with the control should change after a death, a successful combat encounter, or after they reach a cutscene; students which are not in their turn should not take the control or criticize their colleagues' choices (although respectful suggestions may be encouraged); and any student can pass their turn once if they feel a section makes them uncomfortable. Also, the order of play should probably be random and always very clear, and if a student does not want to play for any reason, they can work as navigators and use tools such as tutorials, maps of the

game, wikies, and guides to support their position, all of which are easily found in the internet.

5 FINAL REMARKS

We conclude that TLOU2 provides a rich social-semiotic environment that can have its signifying potentials explored in game-based classrooms by using the representational and compositional meanings present in it to create engaging pedagogical practices. Therefore, we proposed several activities that can give a head start and stimulate teachers developing their own ideas considering the ludo-narrative and system-gameplay dimensions of this game and others.

We probably should expect more immersive lessons when combining all or some of the activities above (although none of these were tested). On top of that, the context of the TV Show can also be used in tandem with the game to harness the potential hype of the series and its narrative adaptations in favor of promoting discussions, possibly leading to an even more engaging learning environment.

Finally, due to a limitation of scope, we could not go deeper in the analysis, however it allowed us to take a closer look into the vast amount of multimodal texts videogames can encompass and ponderate the many uses such complex gameworlds can have in educational contexts. As the field of CALL keeps advancing, it now shows a tendency for studies involving digital games and digital worlds to steadily increase in the years to come, as there is still great potential for expansion in the area.

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