

# A SOCIOCULTURAL APPROACH TO LANGUAGE LEARNING AND INTERDISCIPLINARITY IN STARDEW VALLEY

# ABORDAGEM SOCIOCULTURAL NO APRENDIZADO DE LÍNGUAS E INTERDISCIPLINARIDADE EM STARDEW VALLEY

# ENFOQUE SOCIOCULTURAL DEL APRENDIZAJE DE IDIOMAS E INTERDISCIPLINARIEDAD STARDEW VALLEY

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## **ABSTRACT**

As the digital world has constantly been a part of the reality of so many children, finding a way to use it in favor of school and the learning process is a common goal. This article aims to present a perspective in the sociocultural approach according to Vygotsky (1978) and the possibilities of using the digital game *Stardew Valley* in a language lesson, to present context, meaning and word choice related to any possible subject, for example, through its interaction mechanics (GEE, 2010; CHIK, 2014; PEREIRA, 2013), such as pre-made conversations, feedback and game progression, and using the second language as the means to do so. After the literature review, which introduces to the views related to the use of games and the sociocultural approach, the author presents the methods and a corpus analysis regarding sentences that are part of the game and can be used to focus on understanding language use. The analysis suggests the game proposed could be a valuable asset for the language learning class, as long as teachers use it as anextension of their classes, creating a critical reflection on the gameplay, as well as working alongside other teachers and subjects from the core curriculum.

**KEYWORDS:**Interdisciplinarity. Language learning; Sociocultural approach; Digital games; Stardew Valley

## **RESUMO**

Como o mundo digital sempre fez parte da realidade de tantas crianças, encontrar uma maneira de usá-lo em favor da escola e do processo de aprendizagem é um



objetivo comum. Este artigo tem como objetivo apresentar uma perspectiva na abordagem sociocultural de acordo com Vygotsky(1978) e as possibilidades de usar o jogo digital Stardew Valley em uma aula de idiomas, apresentar contexto, significado e escolha de palavras relacionadas a qualquer assunto possível, por exemplo, através de sua mecânica de interação(GEE, 2010; CHIK, 2014; PEREIRA, 2013), como conversas elaboradas previamente, *feedback* e progressão do jogo, e usando o segundo idioma como meio para fazê-lo. Após a revisão da literatura, que apresenta as visões relacionadas ao uso de jogos e à abordagem sociocultural, a autora apresenta os métodos e uma análise de corpus sobre sentenças que fazem parte do jogo e podem ser usados para focar na compreensão do uso da linguagem. A análise sugere que o jogo proposto pode ser um recurso valioso para a aula de aprendizado de idiomas, desde que os professores o usem como uma extensão de suas aulas, criando uma reflexão crítica sobre a jogabilidade, além de trabalhar junto com outros professores e disciplinas do currículo.

**PALAVRAS-CHAVE:**Interdisciplinaridade; Aprendizado de língua; Abordagem sociocultural; Jogos digitais; Stardew Valley

#### RESUMEN

Como el mundo digital ha sido constantemente parte de la realidad de tantos niños, encontrar una forma de usarlo a favor de la escuela y el proceso de aprendizaje es un objetivo común. Este artículo tiene como objetivo presentar una perspectiva en el enfoque sociocultural de acuerdo con Vygotsky (1978) y las posibilidades de usar el juego digital Stardew Valley en una lección de idioma, para presentar el contexto, el significado y la elección de palabras relacionadas con cualquier tema posible, por ejemplo, a través de su mecánica de interacción(GEE, 2010; CHIK, 2014; PEREIRA, 2013), como conversaciones preestablecidas, feedback y progresión del juego, y usar un segundo idioma como medio para hacerlo. Después de la revisión de la literatura, que presenta los puntos de vista relacionados con el uso de juegos y el enfoque sociocultural, la autora presenta los métodos y un análisis de corpus con respecto a las oraciones que son parte del juego y se pueden utilizar para enfocarse en la comprensión del uso del lenguaje. El análisis sugiere que el juego propuesto podría ser un activo valioso para la clase de aprendizaje de idiomas, siempre que los maestros lo usen como una extensión de sus clases, creando una reflexión crítica sobre el juego, así como trabajando junto con otros maestros y materias curriculares básicas.



PALABRAS CLAVE: Aprendizaje de idiomas; Enfoque sociocultural; Juegos

digitales; Stardew Valley

Introduction

Literacy and language studies have been trying to embrace new options to

keep motivation, lower affective filter, improve students' engagement, and create a

better environment for the learning process. One of the resources is the technology

and, to do so, it is necessary to test and apply them to analyze possible outcomes,

seeking advantages that can be used in favor of better language learning.

Therefore, as mentioned by Gee (2010), there has been a shift from the

psychological perspective that saw students engaged in merely mental processes,

like decoding and understanding, to a broader view, where readers and writers

engage in social or cultural practices - written language is not isolated, for instance,

it is affected by oral practices and sociocultural perspectives of society, and that

includes all areas that surround people. Video games, the object of this paper, are

rich in visual and audio, and they provide interactions betweenthe machine and/or

with other players, that enrich the learning experience, as suggested by Peterman

et al (2014).

Chik (2014) articulates how it is possible to implement game-mediated

activities in the L2 learning environmentby mapping L2 learning theories and

analyzing gameplay of various games. Thus, Vygotsky (1978) enunciates that in a

perspective of learning, social and cultural factors play a central role in this process,

and this role is considerably affected by the environment in which it is situated.

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That is a core factor to discuss the practices of language teaching as it

requires a context in which the practice is situated and it is not possible to achieve



such modelunless there is a practice that includes other aspects and subjects from the curriculum. Therefore, when considering the idea of interdisciplinarity and the second language as a way to teach new content, it seems valid to usevideo games and their asset of content, interaction, and other mechanics.

To analyze how a game would perform in this perspective, combining elements of the sociocultural approach and the digital game-based learning approach, this paper seeks to present the game Stardew Valley and its interaction mechanics as a tool or resource for teachers of foreign or second languages, who can foster a learning environment in a contextualized, single or multiplayer game.

# Interdisciplinarity, language learning, and video games

In all stages of language acquisition, rather L1 or L2, students are taught to read and write in a certain way, as they participate in different social and cultural practices that surround them, in their community or their social groups, for instance. As mentioned by Gee (2010, p. 4), students learn new ways to write and read by interacting with groups outside school environment as well, therefore, they are taught to "act, interact, talk, know, believe, and value in certain ways as well, ways that 'go with' how they write and read".

In the search for improved literacy sources, Chik (2014) reflects that learning through digital games has significantly increased in the past years, as teachers try to find a bridge between situated practices, contextualized environment, and language use. The author highlights the potential that video games have to comply with these factors, mentioning that L2 is essentially required for social actions in a multilingual world, and in a multilingual game as well, which may serve as a contextualized practice in this case.



As a perspective reinforcing the use of video games in the classroom, but with a more careful approach to it, Khatibi and Cowie (2014, p. 18) suggest that "sufficient support has not been established to confirm that academic skills are enhanced through this type of education", adding that it is in its early stages, so more research should be done to analyze the efficient use, which justifies this research paper, for instance. In this matter, Pereira (2013) adds that it is also possible that all games can be used, as long as the researchersare able to carefully analyze them. Thus, the critical analysis of games by new researchers can possibly bring new results and present a different or improved perspective of them in class.

On the other hand, Galvis (2010) suggests that technological advancements make it possible to study a language and a cultural group, especially when using interactions with voice or writing recognition, capable of reacting. All innovation presented to the student can be used to favor the learning experience, as indicated by Bourgonjon (2015) since students tend to immerse themselves and enjoy learning objects that enable critical thinking, experimentation, and interaction – factors that a good combination of the right game and the method used by the teacher can accomplish.

Not only video games, but all technologies depend on that. As mentioned by Rios, Conte and Habowski (2019, p. 42), learning and "human interdependence in personal contacts should not be neglected due to the technologies that require, above all, the active participation and socialization of children". Therefore, it is a challenge to understand the interaction and the relation between children, their learning process, and the technologies accessible to them.

Peterman et al. (2014) discuss that literacy occurs on the moment a student is able to give meaning to a symbol, interacting with it and attributing his interpretation based on pragmatics, or the meaning from the context. With that in



mind, the authors emphasize that, when a teacher thinks like that, anything, where there are symbols and interpretation, can and will become a literacy asset, or even multiliteracies, as it may include multiple symbols, such as visual and audio.

Besides, the authors argue that video games are symbiotic and are a set of activities that require experiencing and interacting, to modify or learn new meanings. It seems that Peterman et al. (2014) and Gee (2010) agree on the matter of attributing new meanings to certain words. Gee (2010) also adds that situated understandings (the meaning the student gets from listening or reading, or even the student produces when talking or writing) are part of everyday life. Hence, even the simplestwords are likely to be understood in a different way given their context or situation they were used.

Complementing this idea, Ang et al. (2010) suggest that the gameplay is not limited to the experience within the software, but it involves a broader sense of community or cultural group. When playing collectively in a multiplayer game, it is possible that through interactions, there will be visible effects on the language use, but even single-player experience maybe affected, as the game community tends to create a base and help each other, enhancing the sociocultural practice. Chik (2014, p. 93) also mentions "research on L2 gaming has already shown L2 learning can arise from textual or social interaction within the gaming environments", although they have learned most of what they know "by following oral instructions given by members of their immediate social circles".

Nevertheless, Vygotsky (1978) believed that there is a clear connection between the student (the individual) and the environment where theywere situated, and this factor is essential for learning. In this sense, context from a video game may become the social environment, created by the game itself and communities of players, where people are interacting in different ways such as following or giving



instructions to one another, or even with efficient interaction mechanics, capable of replying, interacting and reacting to the player as the game goes. Galvis (2015) shares the same perspective as the author, essentially mentioning that video games can provide such an environment in a safe and monitored way.

Regarding language and interdisciplinary practices, Fiorin (2008) suggests that there are two different ways of producing science, which means to develop critically the abilities of learning and producing, a key factor in school. According to this author, there is an exclusion principle and aparticipation principle, and these are related to the ways teachers present the subject, the first one being a short process regardless of the content, and the latter, a complex and contextualized practice.

In addition, Fiorin (2008, p. 36) mentions there is a shift in the way to do science and it "calls into question the disciplinary divisions, the rigid borders between the fields of knowledge". Fazenda (2015, p. 10) complements by mentioning, "Each discipline needs to be analyzed not only in the place it occupies or would occupy in the grid, but, in the knowledge that contemplates". Observing these aspectsis possible to say that there is greater concern over the interactions between each subject and this should be valuable as long as teachers are able to understand how to proceed.

Finally, in other to use a game properly as a literacy source in class, the teacher mustpromote a moment for reflective play. It requires the students to engage in communicative activities and analysis of what they played, but it also enhances their experience through the construction of new or modified meanings, among their peers in the game community/classroom environment. In recognizing themselves as part of a socio-cultural group, students may find new potential uses for vocabulary, with a better understanding of contexts and meanings.



## Stardew Valley: possibilities and analysis

Stardew Valley is a farming simulation/role-playing game, released in February 2016 for Microsoft Windows, with a later released for macOS, Linux, consoles (PlayStation 4, Xbox One), and mobile (PlayStation Vita, Nintendo Switch, iOS, and Android). This is both a single-player and multiplayer game, and although the interactions among players are restricted, the interactions players have with Non-playable characters (NPC) were shaped so asthe interaction mechanics would have human-like interactions with the player, making it possible for the player to have a higher affinity with a character and maybe not so much with another one.

The idea of using interaction mechanics fit the idea of using this game for language teaching and interdisciplinary purposes. As discussed by Gee (2010) and Peterman et al. (2014), practices that are planned around the idea of how language is a social and functional parameter tend to create a playful learning environment. Therefore, interacting with mechanics that can have human-like responses in-game may promote contextualized learning.

As Galvis (2014, p. 24) proposes, even if the language is not the main objective in this game, especially because all forms of speech are written, the game "promotes language use around game-play", thus the teacher can reinforce language discussions with pre, while and post-playing tasks, to generate reflective learning.

In Stardew Valley, the player can create a character of his/her own, choosing physical features and even favorite things, that will serve for anin-game purpose. However, not only the player can portray him/herself based on personality traits, each of the NPC on this game was designed to have its own personality, so they act in a certain way and have a reaction or response to the player's action related to that.



Figure 1 -Friendship system in Stardew Valley



Source: the author

Since the game is based on the idea of sociability, there is a friendship system that requires the players to interact, give gifts, and reply to prompts to get the red hearts, as shown in figure 1. This system uses the interaction mechanics in order to define the reaction of each character to some situations, providing a reply for things they love, like, dislike, hate, or have a neutral reaction, and this is connected with cultural aspects of each person.

Also, when the game expects the player to choose from some answers what would be their reply to a prompt, it reacts according to the personality trait of the character, being offended, sad, or happy, for instance. To make this system even more valuable, the game requires the player to interact before getting each of the hearts, and the number of these interactions may vary from NPC to NPC,



considering that the shy ones will require more interaction before being friendly, for example.

The friendship system in Stardew Valley is a perfect resource for teaching language pragmatics, discourse analysis, meaning, and contexts. The interaction mechanicsare well-designed to be able to support gameplay of more than 60 hours, if the player wishes (as the game has no real ending), and the interactions unlock new features, such as places and cutscenes – those small movie clips made to show a situation or an event.



Figure 2 - Prompts from social interactions

Source: the author

Prompts, as shown in figure 2, are when the language interaction gives the player the sense of thinking how to use what they know. Alex, one of the NPC from the game, lives with his grandparents in this small town, and dreams of being a



football player. His personality traits involve bragging about himself, being arrogant, but a lovely grandson. Therefore, one of his prompts to the player is asking about his appearance, and his reaction will change according to the player's choice – when choosing the first one, Alex will reply "Yeah, I know. That's why I have it like this." and give points towards earning a red heart, but if the players choose the second one, Alex will reply "Yeah, right. You're just jealous that I look so good." and no points will be added.

Chik (2014) reinforces that when a game is played out of the school context, it generates informal leaning, mentioning that some players see that the main reason for playing a game would not be learning something, but actually having the pleasure of playing, causing the learning process of a language to be incidental. The author also adds that L2 in gaming contexts may "arise from textual or social interaction within the gaming environments" (2014, p. 94), as it happens in Stardew Valley, especially when the social interaction with NPCs is restricted to the character, even when playing in multiplayer sections.

In Chart 1 below, there are some excerpts from the game, considering a few non-playable characters, some of their personality traits, a prompt, and the reaction to the answers. This data was collected considering the latest update of the game and 0 to 2 red hearts in friendship level.

Chart 1 - Analysis of prompts and personalities of some non-playable characters according to the choices the player makes

NPC	Personality	Prompt	Possible replies
Sam	Outgoing Dislikes authority	"You know, my band and I are trying to come up with the	Choose: "Farming, mining and chopping wood"  Get "Hey, you know what? That sounds perfect.  Thanks!"



	Loves music  Easygoing	name of a song, what do you think it should be?"	Choose: "A city in the sea"  Get: "You know what, that's perfect!"
	Not afraid to break rules		Choose: "Anything you choose will be horrible"  Get: "Hey man what the heck is your problem?  Sorry, I asked."
Hailey	Self-confident	"*sigh*what do you think I should do today?"	Choose: "Watercolor Painting"  Get: "Hmmthat's a pretty good idea, actually."
	Selfish Individualistic		Choose: "Relax and read a magazine"  Get: "Hmmthat's a pretty good idea, actually."
	Fashionista		Choose: "Stop being a selfish crybaby"  Get: "Get away from me, you stupid jerk."
Demetrius	Adult Scientist	How would you classify a tomato?	Choose: Vegetable  Get: "Really? I figured a farmer would know the correct answer
	Step-father to wife's children		Choose: Fruit Get: "See? (Player's name) agrees with me.
Vincent	Child	Vincent has no prompt, but his father is a soldier and this is a recurrent topic when the player interacts with him	"Dad's coming back soon! I hope he brings me some toys."
	Good at sports		"Dad's not around much I miss playing with him."
	Struggle in class		"Hi there, mister/miss!"
			"You're not as boring as most grown-ups!"
Linus	Homeless	If the player visits the town at night,	Choose: "Yes, it is disgusting"  Get: no point with him and this special event ends



	Poor	they may witness	in this scene
	Solitary	Linus looking for	
		food in George,	Choose: "No, it's a shame to waste perfectly good
	Kind	Evelyn, and Alex's	food."
		trashcan. He	Get: Linus is pleased that the player understands
	Feels unwelcome	apologizes and	him. Once the player leaves, Linus starts to go
	in the city	explains that he	through the Pub's trashcan and gets caught by
		does not want to let	Gus, that says "You don't have to hide, Linus, I
		perfectly good food	know what you're doing there. If you need food, just
		go to waste. Linus	ask. I can't stand for anyone in Pelican Town to go
		asks if the player	hungry!"
		thinks, what he is	
		doing is OK.	Choose: "You should stop mooching off others and
			get a job"
			Get: Linus explains that not everyone survives that
			kind of lifestyle. Once the player leaves, Linus goes
			to rummage through a different trashcan.

Source: the author

As shown in Table 1, the idea of the game is beyond having fun. These prompts and the situations they will develop so thatthe game can be used, later on, to discuss how important choosing what a person says carefully is logical, in any language. These factors are keys in conversations and how to handle the other, speaking respectfully and choosing words according to personal intentions.

The NPC Linus, for instance, and his prompts come with social and economic aspects of life and language, regarding the way the player can interact with him – a prompt that makes the other feel diminished or supported, showing disgust or empathy. This shows a great opening to bring geography, history, and social studies contents to understand such questions, relating it with the game and how it portraits a character that has economical struggles and lives in a camp tent.



Some of these prompts lead to new conversations in the future, and they take the player into someone else's life. Thus, using the game in the classroom requires this critical reflection. Vincent, despite having no prompt, always expresses his sadness in not having his father around, and this may lead to deep discussions about other factors of the friendship system. Recalling what is proposed by Rios, Conte and Habowski (2019, p. 48), to avoid falling into the loss of meaning, insensitivity and intellectual dispersion, in order to favor communication, the (re) construction of knowledge [...]", the teacher should appoint out these aspects and critically reflect on them, with the concepts and ideas the students bring.

As Stardew Valley simulates the every-day life of a farmer, the teacher can use this game to teach almost any subject. Considering that the player has a farm and limited money to buy seeds, and the price varies according to each plant, this is an opportunity to remember mathematics and physics contents, especially because the player will need to distribute the seeds over an area while paying attention to the amount of money they have.

Other factors indicate that subjects like geography, history, and biology or sciences can be very useful. For instance, some seeds only grow in certain periods and the game has its season system, spawning through the four seasons (starting with spring and ending in winter each year) and using the weather to influence the player to consider their options to plant since, on the rainy days, there is no need to water plants, but on snowy days, seeds should be planted inside a greenhouse.

Moreover, there is the possibility to explore mines and volcanos to find special stones or even gems. As the game depicts a small town, the differences between a rural area and a big city are also a great topic to explore.

Finally, as the game is playable in different languages, using it to teach different contents in a second/foreign language seems doable, as well as providing



a moment of fun for students. Fazenda (2015) mentions that "it is imperative to carry out a detailed analysis of the reasons for this historically and culturally contextualized practice/didactics", and Stardew Valley for educational purposes may fit in this aspect, as next section will present the results.

Results

Using *Stardew Valley* in the classroom is a great opportunity to bring a different environment with an easy-to-learn game that does not require a proper tutorial, but may need scaffolding (the process of moving from the macro to the micro, from the big picture concept to the smallest part of a theory or content)to get students into it. Since it is not an educational software, students need to be aware of what the teacher expects them to do, and how to interact with the characters have results according to the answer given.

One of the most important factors for choosing *Stardew Valley* as a resource for language learning is its availability. Although the interaction among players is not available across different platforms, the fact that this game is out for mobiles, computers, and gaming consoles (such as PlayStation) helps when bringing it to class. For instance, on the computer gaming service program Steamit comes with the multiplayer option, while on iOS and Android, the mobile version (which is the same from the computer) still does not have a multiplayer option. To have this game in class, it is not necessary to have many copies – essentially, students would be able to support each other and play together.

When analyzing the game and the conversation prompts, it was interesting to see diverse topics being covered, such as poverty, social classes, personality conflicts, family loss, and depression, in one single game with such a different approach.



This can be an opportunity to practice the language while bringing real-life issues to debate. These topics may be delicate and require the teacher to prepare themselves before coming to class and discussing with the students, but they are important for the social practice of the language as a contextualized construction. This is related to what Rios, Conte and Habowski (2019, p. 51) refer as "problematization of contents and enhance social learning", when considering the use of technologies in education.

There are 40 non-playable characters in *Stardew Valley*, 31 of them available with interactions that help the player progress in their search for being friends with everyone. Considering that each of these characters has at least two unique interactions based on dialog and options, it is possible to say that the students may come across 60+ conversations where they have to think about the language use, besides the regular conversations with the NPC.

Furthermore, some levels of friendship require the player to have enough red hearts with a third person – for example, Elliot has a conversation feature available if the player is friends with Leah already. This may also motivate the students to try harder to become friends with other NPCs, especially if they expect to become friends with all characters.

Since *Stardew Valley* is a recent game, a trend among kids and adults alike, it is possible to reflect on how this game could also be used, if properly planned, for adult language instruction as well, providing a fun and interactive opportunity to lower affective filter for many people who consider it difficult. As Bourgonjon (2015) emphasizes, while "each player may have different motivations, they have to understand that they need to link their private desires to those of others in order to resolve the complex problems they face," which helps understand why adults would play this game as well.



Besides, regardless of the conversation and friendship factors, the game also serves a great purpose of teaching farming and trading vocabulary, which may be helpful for learners who need knowledge in this area. The game brings the names of fruits, vegetables, trees, farming tools, animals, food, and many others, and these can be useful vocabulary.

Stardew Valley has season-bound holidays, and teachers can take this as an opportunity to foster historical and social aspects of life in the community, as well as the celebrations that the game shows. These special events always bring new content, like news seeds, produce, and items.

One final point that needs to be mentioned is that, technically, *Stardew Valley* has no end, therefore the game may go on for hours and hours. The game is based on seasons, with each season lasting for 28 days, and only during Year 3 the main storyline of the game comes to a conclusion, but the player is very likely to still have things left to do in-game, such as achievements, farming specific fruit or vegetable that are seasonal, or even the development of friendship levels.

## Conclusion

As Stardew Valley is not a subject in any language acquisition research, this paper can bring more attention to games that have no educational purpose, yet may fulfill a gap on the motivation and context factors of language learning. As mentioned by Pereira (2013), people often assume that language learning materials are restricted and/or solely associated to textbooks, copies or pictures, for instance, without considering that it can be any resource that facilitates the whole process of learning, regardless of the media – video games are a great asset for this purpose, as shown in this paper.



Khatibi and Cowie (2013) reflect on how humans can explain something when they previously had contact with it before, which is referred to as recognition memory, a feature that works for both video game and language learning. According to the authors, "memory of previously encountered situations facilitate both processes (...) serves as a foundation for learning new information simultaneously as it indicates that new knowledge has been accrued" (2013, p. 26).

In addition, a game like Stardew Valley may lack several practices in-game, such as listening and writing, and this may affect language use. However, as long as the teacher can scaffold the idea and the language rules that may appear here, students are able to fill those gaps with other activities. Also, if the teacher proposes the gameplay as a group practice, students should be encouraged to use English to communicate and discuss with one another, with the assistance of a dictionary, vocabulary lists, and even textbook.

It is important to emphasize that Stardew Valley's use in class does not aim to replace content-learning textbooks but to give extra support and bring a diverse practice to class. The game surely requires teacher preparation, class introduction, critical reflection on the activity (especially if the activity is done with no foreshadowing), scaffolding, and many other elements that are part of a language class.

In conclusion, Stardew Valley poses some innovation and attractive features that, if they are worked properly and with the right support from the teacher, are possible to create a significant environment for language learning. Beyond textbooks and class practices, that tend to be more of the same, using a game available for multiple platforms as a contextualized activity can present better results, and improve research developed in the field.



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