

Not just Playing: Potential in Enhancing Second Language Learning through Games

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Abstract. Game-based interaction is a new and exciting approach to second language (L2) learning in language classrooms worldwide. This paper aims to explore the potential of using vernacular games as a tool to improve L2 skills. By reviewing previous studies, the paper discusses how games can combine self-motivated and passive learning to make L2 learning more enjoyable and effective. The paper explores the possibilities of studying L2 with games' wide range of contexts, such as audio, visual content, puzzles, and stories. It then provides suggestions for utilizing vernacular games, such as using short L2 commands, switching to an L2 server, changing long text to L2, and guessing games in long texts, visual aids, and gestures. This paper concludes that adjusted vernacular games can help with learning L2, but learners should balance gaming and actual learning. Seeking professional guidance may be helpful in leveraging the potential of incorporating games into language learning. However, more research is needed to determine how games can best support L2 learning regarding various issues such as drawings or gestures' impact on memorization and learners' self-control in gaming.

1 Introduction

Learning a second language (L2) can be a stressful experience due to the complexity of the language and cultural differences. The pressure to perform in a new language can lead to anxiety and other mental health issues, adding to the challenges of L2 learning. For many L2 learners, the classroom can feel like a battlefield, with growing competition and pressure to perform at higher levels. This culture of stress and anxiety can negatively affect learners' mental health and academic performance.

Studies indicate that learning L2 can have a positive impact on cognitive function and help decrease the likelihood of age-related cognitive decline [1]. Therefore, it is crucial to enhance the L2 learning experience through innovative methods that prioritize the learners' overall well-being. To create a relaxing and fun learning atmosphere, educators can incorporate game-based learning and gamification into their teaching methodology. According to Avedon, the concept of games includes several elements, such as the purpose or reason for playing, the procedures for taking action, the rules that govern gameplay, the number of players required, and the roles each participant will take on, the patterns of interaction between players, and the results or payoff of the game [2]. While there are already games available to improve language ability, such as *Mad Libs* and *Scattergories Game*, educators can also use vernacular games that are not typically designed for language learning. By making small adjustments to the vernacular game content, educators can create

edutainment that enhances L2 learning. This approach can create a safe and fun environment for learners to practice their language skills and reduce stress and anxiety associated with traditional classroom settings.

The aim of this paper is to explore game-based learning as a feasible and enjoyable approach for L2 learners to learn a foreign language. Rather than seeing games as a distraction, they can be viewed as a tool to simulate an immersive environment for language study. The paper will compare two different approaches to studying L2 in real life and find common ground in game-based learning. Based on this common ground, the paper will provide several suggestions for using vernacular games in L2 learning.

2 The benefit of gaming in L2 study

There are two approaches to learning an L2: self-motivated and passive learning. However, using gaming as a tool for L2 learning can effectively consider the merits of these two aspects. This part will delve into the role of self-motivation and passive learning for L2 learners through previous studies.

2.1 Self-motivated learning

Self-motivated learning, led by learners themselves and usually having a clear goal, has many benefits. Driven by learners' inner needs, motivation can significantly impact whether they will take the initiative with their language learning. Self-motivated learners often have a

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deeper understanding of the material they are studying, as they can explore topics in greater depth and at their own pace. Studies suggest that students with high motivation tend to perform better in school than those with low motivation [3, 4]. To enhance learners' motivation, their reality and creativity should be integrated into the language learning process and engaged on their own terms. This can lead to increased engagement and a deeper understanding of the language. For instance, Chan and Wong discovered that students worldwide learned Japanese during their part-time entertainment, indicating the effectiveness of personalized and engaging language learning [5]. By taking leadership in their learning, learners can develop a sense of autonomy and independence, leading to increased confidence and self-esteem.

While self-motivated learning for an L2 has benefits, it also has drawbacks. According to Dörnyei, keeping oneself motivated can be demanding, especially when learning a new language. In order to maintain their focus and drive during their studies, learners must possess a firm commitment, strong metacognition skills, the ability to control their environment, and effective emotional regulation [6]. Maintaining consistent self-motivation over time can be a difficult task to comprehend fully.

2.2 Passive learning

Passive learning is a learning pattern forced on the learner by outside forces that they did not choose for themselves, such as exams, schools, or parents. Lack of choices for their studies can cause some negative impact on their L2 study. When students lack motivation and fail to engage in classroom activities fully, their study methods outside the classrooms often resort to cramming for exams and settling for passing grades. In the context of English classes, many students experience "classroom fear", as research led by Chen and Lu reveals that both internal and external classroom environments, including teachers, contribute to this fear; this phenomenon is prevalent among both adult and young foreign language learners [7].

On the other hand, passive learning can have some beneficial aspects. Taira and Leong found that professional guidance from teachers and student competition for better test scores can motivate students to study more effectively [8]. High-stakes exams in Japan and Singapore lead students to use innovative and effective learning techniques, resulting in positive academic outcomes. Greater pressure to excel leads to advanced methodologies, including rote learning [8]. Passive learning is efficient in terms of time, but it comes with a condition.

2.3 Learning in the gaming context

Based on Avedon's concept of games, gaming shares some common ground with learning, such as a purpose (to pass a challenge or master a skill), a specific rule to follow (grammar and spelling), and single to multiple participants [2].

Games and language learning are both built on a foundation of context. The use of context in language learning has been supported by theoretical literature such as the constructivist theory, which posits that learning is an active process that involves constructing meaning from experiences and prior knowledge [9]. When learning new vocabulary, language learners need context to understand the information conveyed in a phrase to turn the information into memory and transfer this processed information into practice in L2 [10]. In hypothesis, the more context given during memorizing new vocabulary, the better the effect. For example, providing a picture or video of a real-life duck quacking may help learners understand the English word "duck" better. Aside from that, games can provide a broader range of context than traditional school training. Video games, in particular, usually contain a good amount of audio (music, sound effects, character dialogs), visual content (3D models, artwork), puzzles that need strategic thinking, and stories. In contrast to traditional school training, where lessons are demonstrated separately to students, a single game can offer multiple interactive contexts for learners. According to research, the use of games in language learning has been supported by theoretical literature such as the cognitive load theory, which suggests that games can reduce cognitive overload by providing learners with an engaging and immersive environment that promotes active learning [11].

2.4 Self-motivated learning and passive learning in gaming

For the self-motivation part, many games rely on gamers' motivation. Game developers want players to invest as much time as possible; Massively Multiplayer Online (MMO) video games are usually designed to apply such a pattern. In this case, for example, a video game such as *Overwatch* was highly repetitive in terms of game mechanics. However, there are always rewards to encourage players to participate in PVP (player vs. player) game mode, such as limited challenges and "Rare" character skins, which lure people into spending more time. In most cases, the more time players put into such games, the more self-confidence they would gain. It may help promote a positive learning experience in L2: self-confidence is precisely what they need to face fear when exploring a brand-new territory. No game development company would want to upset their players; therefore, in the game, the player is guaranteed a chance to win or gain self-confidence no matter what.

Furthermore, the passive part of studying is similar to gaming; many rules will govern the player's actions, unlike rules during classes or exams; most rules during gaming are essential to keep the game running. Such as a player has to talk to a specific Non-Player Character (NPC) in a Role-Playing Game (RPG) to keep progressing in a game, or the player needs to behave themselves to get a special reward. The passive experience during gaming is merged with the rules of a game – if a game is cleverly designed, the player will not even notice that they are being forced to do something they

may not want to. Utilizing games can create a less stressful environment for learners, allowing them to push themselves and maintain a faster pace of learning.

In addition, the learning process may cause stress and negatively affect the mental well-being of the learner, potentially leading to mental health issues. Cotter, McGorry and Yung conducted a study on a group of teenagers aged 13 to 19 [12]. They found that while they developed essential skills for greater independence and formed closer bonds with their peers; they also became more emotionally vulnerable and exhibited abnormal behavior. These different levels of stress could reduce how they respond to cognitive intelligence [12]. Balancing stress and relaxation are crucial to maintain optimal health and performance. While some stress or emotional strain levels can motivate learners to achieve better outcomes, excessive stress can lead to physical and mental health problems [13]. Therefore, it is essential to be aware of these potential risks and provide support to help learners manage stress and maintain their mental well-being. Zayeni led a study to assess the efficacy of serious games and commercial video games in preventing or treating psychiatric disorders in children and adolescents with different mental conditions [14]. These studies suggest that the need for relaxation presented by the anxiety and fear associated with schools can be utilized to create the opportunity to study L2 in a relaxing environment.

3 Suggestions for adjusting different kinds of games to improve L2

This chapter will study previous research, outline five suggestions, and present examples of alternating various types of vernacular games or gaming environments that could help in learning L2. In research done by Janse, Schoonen and Yu, studying abroad has been shown to positively impact L2 learning, particularly in relation to processing speed [15]. In order to improve listening and speed up the processing time in a less thorough environment than studying abroad, it may be effective to simulate some aspects of studying abroad life in a game with context: in conversation, reading, listening, and visual aids.

3.1 Use L2-fixated vocal commands in fast pace CO-OP games

This method features short vocal communication during a fast pace game. Fast pace vernacular games usually have levels that operate on a time duration forced on the players.

A fast pace would keep a player's concentration (motivation) fixed, and repeated vocal commands performed by other players can potentially strengthen the children's or older players' comprehension of a language. According to Vygotsky's sociocultural theory, social interaction and language play a crucial role in cognitive development [9, 16]. He suggests that children can benefit from the assistance of others who actively listen, model accurate pronunciations, and encourage

elaboration when learning the language [9, 16]. This theory highlights the importance of the social and linguistic environment in a child's cognitive growth [9, 16]. Therefore, hypothetically, changing the vocal commands from the mother language to L2 can improve the player's L2 and cognitive ability. The commands can include many concepts in L2, such as action (what to do or where to go), direction, and object (name, color, shape, size, etc.); all are centered around the in-game interaction.

Normally, games are centered around the interaction between the game and the player; many games require multiple players. For example, the 2-4 player cooperative (CO-OP) video game *Overcooked* (Rated E, as in "for Everyone") features a fast-paced kitchen environment that lasts four minutes per level. The levels require the players to communicate frequently and use as few words as possible, such as "Cabbage!" "Top left Dishes!" "15 seconds left!" The players must immediately understand what their partners are saying and react quickly before they get a bad result in the game. Research done by Mackey suggests that conversational interactions can aid L2 acquisition through implicit negative feedback [17]. The study involving 34 adult learners of English as a Second Language (ESL) found a positive link between interaction and grammatical development; learner participation in interaction that allows for the negotiation of meaning can facilitate language development [17]. In fast pace CO-OP games like *Overcooked*, which rely on the players to communicate with each other, it is possible to form an equally fast pace L2 learning environment by directing links between interaction and L2.

This method works best on games requiring players to play the game face-to-face, for L2 learning requires an environment with context; in this case, the context comes from interaction with other people, and the need to socialize in a gaming environment is crucial. Suppose the players are willing to talk with each other; sports games (*Mario Kart*, etc.), board games (*Monopoly*, etc.), and fast pace PVP games (*Overwatch*, etc.) may also benefit from this.

3.2 Switch to the target L2 server on MMO or CO-OP games

This method relies on game player-to-player communication, specifically through text communication or vocal conversations rather than short vocal commands. For instance, according to the internet, after Blizzard shut down the Chinese server of a massively multiplayer online role-playing game (MMO-RPG) *World of Warcraft* in 2023, many players "migrated" to other servers, such as the Northern American server. Some of those who have never spoken English began communicating with English speakers. Reinhardt and Sykes claim that vernacular games like *World of Warcraft* or *RuneScape* could be better for learning an L2 than language-specific games [18]. They have a large community of native speakers and incorporate cultural discourses and narratives, making them useful for

language learning and cultural awareness [18]. Changing the server is almost equivalent to changing the player's virtual location to another country. According to a study conducted by Gass and Varonis in 1994, conversational interaction is essential in improving L2 skills; conversational interaction is a vital aspect that promotes the development of L2 proficiency [19]. If the game's progress depends on social activity, it will encourage players to communicate with others in the target language, creating conversations that could improve their language skills.

In addition, people in games usually talk about the same subject, such as the skill of beating an enemy in games or doing in-game trading. As a previous study suggests, interactive tasks that facilitate the negotiation of meaning are effective for language development. Cognitive processes in interaction and negotiation offer valuable input and output opportunities for language learning [17].

This method can be applied to most games with international servers and online communities, such as MMO-RPGs (*World of Warcraft*, etc.) and CO-OP games (*Barotrauma*, etc.).

3.3 Change the text and dialog in the text-based game into L2

Some games contain large amounts of text and stories for players to read: according to an online article by Imagine Games Network (IGN), *Disco Elysium* has one million words of fully voiced dialogue in its text. Visual novel games and RPG games heavily rely on dialog-based narratives and storytelling. The essential messages (such as the hidden location of an important object) are usually hidden inside the key dialogs, and the player must read and analyze them to "win" the game; skipping them would halt gaming progress. Changing dialogs containing crucial information in L2 forces the players to dig into the sentences repeatedly to look for the key element that can progress the game and improve their ability to read or listen to L2 simultaneously.

Besides, long interactive stories within a game that contains a substantial amount of text can aid in L2 learning. By providing players with a unique way to engage with narratives, games can elicit emotional responses from their actions. Choices made in-game can have consequences that leave lasting impressions on players, as emotions and memories are closely linked to the brain's information processing [20]. By transforming a fictional scenario into a story that evokes a particular emotion, it can leave a profound impression on an individual's memory.

This method works on story-based video games as well. A study found that intermediate Spanish students learning English improved their listening skills more when watching an English-subtitled TV drama compared to Spanish-subtitled or no-subtitle versions [21]. Native Spanish subtitles improved plot comprehension, but there were no significant differences in vocabulary acquisition [21]. Thus, this method is most effective when the text-heavy video game includes both L2 voice

acting and L2 subtitles, such as computer-role-playing games (CRPG) like *Baldur's Gate 3* and visual novel games like *Disco Elysium*.

L2 learners can engage in guessing games (GE) while playing a longer text-based game. This GE is a unique version of the language-based GE concept, which was introduced by Yuliani in 2017; the player with the information deliberately holds the meaning of a word while others guess what it may be [22]. In Yuliani's study, GE improves fifth-grade students' vocabulary. The GE group scored significantly higher (72.125) than the control group (65.450) without GE at Elementary School 117 Palembang, proving GE was effective in language study [22]. The goal of GE during gaming is to help L2 learners develop the habit of deducing the meaning of novel words within context, which can improve their vocabulary recognition skills and comprehension of L2.

An example is using *Dungeons & Dragons* as the tool for GE. *Dungeons & Dragons* is a tabletop game requiring much talking and storytelling. The Dungeon Master (DM) runs the game and can also play as a character. They are responsible for everything that happens during the 3–5-hour game session. The rules and guidelines can be found in the rule book or in a script made by the DM. In total control, the DM (instructor of L2) has the ability to adjust the difficulty level of L2 learning and practice by adjusting how vague the key dialogue is inside the GEs. To illustrate, picture a scenario where the player must find a cube object in order to unlock a door; the dialog would be delivered by an NPC who drops the cube into a moat. The key information during this GE is "the cube is in the moat"; the player has to make the connection between information inside the dialog, such as the definition of a "moat" and where it should be. The DM can adjust the L2 dialog (in this example, English) to a starter level: "I dropped that cube into a moat." Alternatively, make it vaguer for more experienced L2 learners: "Master is going to be mad! I dropped that blocky artifact thing straight into the water outside the castle! Now it is swimming with the wooden spikes and corpses!" The DM could also add confusion items to this puzzle, such as making an event in which the first object the player retrieves in the moat to be an orb instead of a cube, therefore reinforcing the concept of the shape of a cube inside the player's mind, and may improve vocabulary recognition of the learner in the context of a story.

3.4 Add more visual aids while playing games

There is a possible visual aid method for L2 learning during gaming, which involves the learner drawing pictures and making gestures.

Drawing can improve memory better than other techniques, like writing [23]. According to the study conducted by Fernandes, Wammes and Meade, it is because drawing combines elaborative, motoric, and pictorial information to recreate a memory [23]. L2 learners can utilize this advantage to help memorize vocabulary by drawing instead of just writing them down. And based on their study, drawing can be used by people

with cognitive impairments and has positive results in older adults and patients with dementia [23]. Learners who are less advantaged in memory can benefit from drawing to aid in memorizing vocabulary instead of just writing them down.

An example is to use the tabletop game *UNO* as a platform: in *UNO*, each player gets dealt a hand of 7 Uno cards to start. To start playing *UNO*, a player needs to match one of their cards with the card that has been drawn from the draw pile. The objective is to get rid of all cards before anyone else. The game also has special cards, such as the Wild Draw Four and Wild Draw Two. In a two-player game, if player A uses a Wild Draw Two or Wild Draw Four card, player B has to draw the corresponding number of cards before player A resumes their turn. The revised version of L2 learning UNO involves some additional rules. In a two-player game, if player A uses a Wild Draw Two or Wild Draw Four card, they must access their memory of a specific word from a list of vocabulary. They can only use body gestures or hand drawings to describe what that vocabulary indicates in order for this card to work. Player B must then guess the vocabulary in L2 within a time limit. If player B answers correctly, their turn will pass without drawing cards.

This method is also based on the study conducted by Choi and Kim that revealed that visual stimulation and gesture in a third-grade elementary school's EFL classroom improved learning outcomes and aroused course interest [24]. Students who imitated gestures had better performances with gestures, while mimicking gestures when learning new words in a foreign language or artificial grouping improved memorization and retention compared to traditional techniques [24]. This also benefits from conversational interactions; this works best on group or multiplayer tabletop games such as Monopoly or *Dungeons & Dragons*.

4 Conclusion

This paper explores the potential of enhancing L2 learning through games. Based on the reviewed research, it is evident that playing games to learn an L2 combines self-motivated and passive learning. The use of games offers more context than traditional school training and can increase motivation, making it an effective tool for language learning. CO-OP gaming with communication has been shown to improve language and cognitive abilities, while playing games on foreign servers can help target language proficiency. Text-based games are effective for L2 vocabulary, while drawings and gestures aid in memorization. Tabletop games use body gestures and hand drawings to convey vocabulary. The gaming experience can be customized for L2 based on the learner's disadvantages and living habits, making it a flexible tool for language learning. Furthermore, gaming offers a fulfilling and calming experience and can be an alternative for those who experience anxiety during traditional testing methods. In conclusion, incorporating games into L2 learning has the potential to be a highly effective and engaging way to learn a new language.

While incorporating games into L2 learning can be beneficial, based on studies, game-based L2 learning has its limits. Gaming cannot be used as the sole means of learning L2, and learners still need self-control to balance gaming and actual learning. Therefore, professional supervision or advice is often necessary to ensure effectiveness in L2 gaming. Further research is needed in this area for researchers and educators to find the right balance, especially for learners who do not have an interest in learning in the first place.

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