Language Learning Through Watching Gameplay: Merits for Extramural Participation

ゲーム実況動画視聴による言語学習：課外参加の利点

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ABSTRACT

In the last few decades, computer-assisted language learning (CALL) researchers have been increasingly exploring the use of digital games for language learning. Games have been shown to foster both entertainment as well as means for learning affordances. However, the field maintains several limitations, especially regarding learner participation and barriers to entry. Watching gameplay is a recent phenomenon gaining considerable popularity among youth in the high school and university age brackets. In some instances, watching someone play a game rather than engaging in one has some theoretical advantages. Nevertheless, there has been almost no discourse on incorporating this new phenomenon into CALL. This study investigates how watching gameplay can circumvent some of the limitations of playing digital games for language learning.

Keywords: Computer-assisted Language Learning (CALL); digital game-based language learning (DGBLL); watching gameplay; second language learning

1. Playing Digital Games for Language Learning

For the last few decades, computer-assisted language learning (CALL) researchers have explored incorporating digital games into language learning through a field known as digital game-based language learning (DGBLL). This avenue has received a recent renewed interest (Li et al. 2024). While not all games may be considered conducive to learning, well-tailored ones have been shown to have positive language learning outcomes (Reinhardt 2019). Researchers have examined various types of games. These mainly range from games designed for educational purposes, known as serious games, to commercial games, also referred to as vernacular games or commercial off-the-shelf (COTS) games. The primary focus of using digital games for education mostly takes the place of supplemental learning, known as extramural learning. In this way, digital games are seen as tools to enhance conventional learning instead of substituting it.

The merit of digital games is primarily their entertainment value and various mechanics hypothesized to promote learning. Much like a chair would allow someone to sit (van Lier 2000), a well-designed game may include mechanics that theoretically enable players to engage in actions conducive to learning (Reinhardt & Thorne 2019). Nevertheless, certain games may not be considered appropriate for DGBLL if they do not possess design elements conducive to

learning. Table 1 displays some prominent ways digital games may promote language, which will be explained next.

Table 1 *Hypothesized Benefits of Games for Language Learning*

Affordance Type	Basis
Learning environment	Abundant comprehensible input Communicative multiplayer interactions
Motivational tools	Competition Challenge Graceful failure Purpose (intrinsic/extrinsic rewards)
Protected play	Sheltered practice Graceful failure
Pedagogy	Scaffolding Feedback

First, digital games immerse individuals in a robust learning environment by offering a wealth of audio and textual comprehensible input through game dialogues and mechanics (Li 2019). Games also offer learners motivational tools (Ongoro & Fanjiang 2024) by providing an avenue for competition (Nadeem et al. 2023), which may foster engagement if tempered in moderation and not overwhelming or hostile to the learners. This can be especially effective when paired with a perfect balance of appropriate challenge (Csikszentmihalyi et al. 2014).

Digital games also allow for protected play by allowing learners to experiment comfortably in an environment conducive to learning (Gao & Gee 2023). Individuals can make mistakes, experiment, solve problems creatively, and embrace failure without real-world consequences (Ongoro & Fanjiang 2024). Making mistakes is considered a positive aspect of various types of learning (Plass et al. 2020), including foreign language learning (Guzmán-Muñoz 2020). In this regard, games have inherent robust mistake-making mechanisms that create a low-anxiety environment, referred to as the *magic circle* (Duggan 2017).

Digital games additionally offer pedagogical features that support players' gameplay experience and learning through scaffolding and feedback mechanisms. Games allow for cognitive scaffolding through adjusting task difficulties, repeating content, giving supplemental explanations, and providing supportive messages by game characters (Loderer et al. 2019). Games also offer scaffolding through tutorials that guide players into the game's intricacies (Reinhardt 2019). Furthermore, character-leveling mechanics function alongside immediate feedback systems (Ryan & Rigby 2019). These systems allow for long-term incremental growth and understanding and provide intrinsic rewards within the game rather than being extrinsic.

Finally, digital games enable players to learn from success and failure through feedback mechanisms (Pellas & Mystakidis 2020). Here, a game "may positively reinforce in-game

choices by informing the player of the successful completion of a task, but it may also highlight errors to raise players' awareness... (in the) form of corrective feedback" (Calvo-Ferrer 2021: 40). A well-designed game will deliver such feedback in a timely, individualized, relevant, and discernable way to reinforce learning (Reinhardt 2019).

Overall, digital games possess several mechanics and features theorized to lead to language learning. In this regard, a well-suited game may elicit active learning and expose learners to meaningful challenges, authentic contexts, and social interactions (Plass et al. 2020).

2. Limitations of Playing Digital Games for Language Learning

Despite the abovementioned benefits, language learning through digital games has some drawbacks. One of the most significant limitations is its inherent pedagogical barriers related to accessibility hindrances, including individual preferences and barriers to entry and play (Figure 1). First, as with other forms of media, while many people actively play digital games extramurally, others do not choose to partake in them. In particular, evidence indicates that a more significant percentage of males play games than females (Clement 2022). Studies show that females may also differ from males in game genre preference (Andersson 2022, Cieślak 2022) and motivation (Yee 2016).

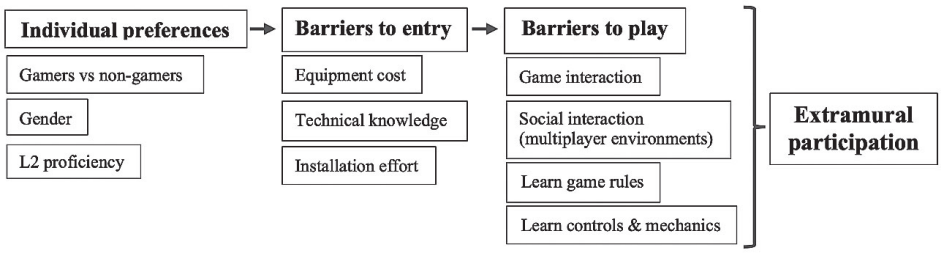

Figure 1 *Barriers to Extramural Gameplay*

Another potentially excluded group includes individuals with lower language proficiency levels. Many DGBLL studies focus on individuals with intermediate to advanced-level L2 proficiency (Peterson 2013). Hung et al. (2018) note the lack of discussion regarding how L2 proficiency may affect learners' DGBLL experiences. Moreover, many learners hold a negative image associated with '*playing' games*, as indicated in Mills and Thanyawatpokin's (2021) survey of 377 participants. Their results showed that Japanese students held a slightly negative perception of playing digital games. Furthermore, most reported not playing digital games, and only 22.8% identified as '*gamers.'*

Next, barriers to entry and barriers to playing games may prohibit certain learners from autonomously engaging in playing digital games. These mainly pertain to the financial burden and technical complexity required for initial play (Orme 2021). When considering selecting appropriate COTS games for learning purposes, Reinhardt (2019) stresses the importance of *practicality*, which can be interpreted as *accessibility*. Learners have expressed confidence in

knowing how to engage in DGBLL when under the guidance of educators (Bolliger et al. 2015), and the youth feel they have a sufficient understanding of how to operate modern technology (Mills & Thanyawatpokin 2021). Nevertheless, playing digital games is predominantly an extramural phenomenon.

Finally, playing games requires the player to constantly interact with the system to progress the gameplay. A defining characteristic of digital games is their implementation of rules and interactivity (Reinhardt 2019). Nevertheless, the work involved in learning the rules, game mechanics, and controls, together with the necessity to actively engage in gameplay, may be less appealing to some. In this regard, Peterson (2013: 139) stated, "The steep learning curve provided by many advanced commercial games can hinder participation, particularly among learners who lack computer skills and appropriate gaming experience."

Overall, digital games have been shown to foster L2 learning while also expressing limitations that need to be overcome. The following section introduces the phenomenon of watching gameplay. This new potential approach to language learning blends elements of digital games and traditional media, offering possible advantages in overcoming the mentioned DGBLL shortcomings.

3. Watching gameplay

Watching gameplay is described as the act of someone watching another person (streamer) play a digital game. These sessions can be either live or prerecorded through websites such as Twitch.tv and YouTube, the latter of which is popular for watching gameplay in Japan (Andersson 2022). Watching gameplay is "...a kind of real-time video social media that integrates traditional broadcasting and online gaming" (Li et al. 2020: 1). The streamers often provide commentary on their gameplay, and users can communicate with the streamer and fellow viewers through a chat box during live sessions. The first-ever video of a digital game with live commentary was possibly posted on the Internet as early as 2007 (Recktenwald 2014). However, within a few decades, watching gameplay has significantly increased in viewership and market value (Hamilton et al. 2014), often rivaling cable TV networks (Gilbert 2018). Compared to content providers like HBO, Spotify, and Netflix, popular gameplay-watching platforms have a greater audience in terms of viewers and subscribers (Kerstin Sylvén & Löwenadler 2022). As mentioned earlier, studies have indicated instances where more people watch someone else play a digital game than play it themselves (Andersson 2022, Kaytoue et al. 2012) to avoid the *work* of doing it themselves (Orme, 2021). In a 2021 survey asking middle and high school students in Japan what kind of career they want to pursue, '*game streamer'* was ranked in the top 5 for boys and top 10 for girls (Anonymous 2021 "Awareness Survey").

Watching gameplay can occur either synchronously through live streams or asynchronously in pre-recorded content of live sessions. Live streaming can involve individuals streaming their own content (Hamilton et al. 2014) or competitive Esports events (Sjöblom et al. 2018, Smith et al. 2013), where verbal and written communication is instantaneous. Here, we see the active involvement of two parties, the streamer and viewers. While streamers broadcast their gameplay,

they frequently provide game commentary and verbally respond to viewers' chat messages. Likewise, viewers tune into the broadcast, watch the streamers' gameplay, and can communicate with the streamer or fellow viewers textually via a chat box (Hamilton et al. 2014). Li et al. (2020) focus on the social and communicative aspects by describing game streaming as a kind of "social media that integrates traditional broadcasting and online gaming" (p. 1). Hamilton et al. (2014: 1315) believe that "live-streaming combines high-fidelity computer graphics and video with low-fidelity text-based communication channels to create a unique social medium." Recktenwald (2014) explains how such commentary is essential for establishing a relationship between the streamers and the audience. This ability to interact communicatively in live sessions may offer benefits for SLA, such as additional learner engagement and motivation.

Next, prerecorded content often consists of recorded videos of previously live gameplay sessions, similar to watching video clips from websites such as YouTube. While there are fewer communicative opportunities, viewers receive other benefits, such as additional annotations and subtitles, as well as further commentary and explanations inserted post-recording. Viewers can also skip around to different sections. The benefits of this for language-learning purposes will be explained below.

Now that watching gameplay has been introduced, the next section will address how watching gameplay can compensate for some of the mentioned limitations of playing digital games. Specifically, this paper will discuss how watching gameplay can overcome the limitations of participants engaging in extramural gameplay, separated between the categories of 'individual preferences,' 'barriers to entry,' and 'barriers to play.'

4. Relative Merits of Watching Gameplay: Individual Preferences

Watching gameplay offers the potential advantage of attracting more females and individuals who do not consider themselves 'gamers.' While the results are not conclusive, recent studies have shown a more significant number of females watching digital games than playing them (Andersson 2022, Andersson 2023). For unknown reasons, females appear to find watching gameplay more appealing, whereas playing games seemingly excludes them; this merits future investigation in future studies. Additionally, the negative connotation of playing a game is theoretically eliminated because users are instead watching games while shifting the burden of playing to someone else.

Next, digital games possess many uncommon words and phrases that are often presented to the player quickly and without pause. This can make it difficult for users with lower L2 proficiency to grasp the language. In this regard, watching pre-recorded gameplay allows scaffolding mechanisms to assist learning. While the live communication aspect is eliminated in pre-recorded sessions, learners are offered several cognitive affordances conducive to language learning. For example, researchers emphasize time control mechanisms in digital games as an under-researched topic with potential avenues for affordances (Reinhardt 2019, Reinhardt & Thorne 2019). These mechanics are not always found in digital games but are available in pre-recorded gameplay content. By controlling time, learners can look up words before progressing

the gameplay and are afforded more time to develop metalinguistic awareness (Roehr-Brackin 2018). Learners are also allowed to replay sections for reinforced learning, as repetition is beneficial for L2 learning of the lexicon (Nation 2001). Pre-recorded content also offers further features, such as supplemental spoken explanation of the gameplay, as well as subtitles of the streamer's spoken dialogue and annotations. These offer learners additional scaffolding tools for greater comprehension and mental processing (Reinhardt & Thorne 2019).

4.1 Relative Merits of Watching Gameplay: Barriers to Entry

It was briefly mentioned above that playing digital games includes several barriers to entry for extramural gameplay. The principal factors in this regard include the equipment cost and the technical complexity of setting it up and installing software. Mills and Thanyawatpokin (2021) reported that most participants (67.4%) *never* use a PC to play games, and the results of Andersson (2022) showed similar results. This may be because gameplay outside of controlled experiments requires individuals to go through several technical and cost-related hurdles, including purchasing, installing, updating, and initiating, all of which may be considered accessibility barriers. While many games are offered inexpensively or even free on mobile devices, studies show that PC games are the most common platform for DGBLL experiments (Hung et al. 2018). Watching gameplay, conversely, can be accomplished through cellphones and other devices with internet connections. These devices are readily available and frequently used by students (Andersson 2022), eliminating both the cost burden and technical requirements.

4.1.1 Relative Merits of Watching Gameplay: Barriers to Play

As mentioned previously, individuals may not always desire to play digital games due to the required burden to progress the gameplay. This can be indicated in cases where people have opted to watch games rather than play them (Andersson 2022, Andersson 2023, Kaytoue et al. 2012). Research shows that people elect to watch games because of the '*work'* required to play them, their lack of skill, toxic online communities, and inaccessibility to digital games (Orme 2021). Therefore, while playing digital games may be seen as a form of motivation through entertainment to some, others may consider this a burden. Additionally, some individuals may not want to communicate with others in multiplayer games and would rather let someone else do it for them.

5. Conclusion

Playing digital games has shown several positive benefits for L2 learning, such as motivation through entertainment, and the field of DGBLL field has renewed interest with CALL scholars. However, the field has several limitations that need to be addressed, such as barriers to autonomous participation away from educators. Watching gameplay is a new phenomenon that is gaining exceptional popularity. While researchers have explained the social aspects of watching gameplay unrelated to language learning, there has been minimal consideration for its incorporation into CALL and second-language learning. Aside from its recent general appeal,

watching gameplay has several potential relative merits for language-learning purposes over playing games. This paper has outlined these merits in terms of promoting extramural learning.

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