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Task-Based Learning and Innovation in CALL: Digital Game-Based Learning

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Abstract
In the course of her distinguished career, Carol Chapelle has conducted a wide range of innovative and impactful research that has intersected the fields of applied linguistics, computer-assisted language learning (CALL), task-based language learning and assessment. Among many noteworthy achievements, her work exploring the relationship between second language acquisition (SLA) theory, task-based learning and technological innovations has been particularly influential. In an effort to highlight ways in which advanced technologies can be used to enhance both language teaching and learning, she has authored significant papers that have drawn on SLA research to provide a comprehensive framework for the development and implementation of effective technology-mediated language learning. The rapid development of technology and its increasing application in CALL underscores the continued relevance of this approach. As an exemplar of this effort, this article examines the application of an influential innovation in contemporary CALL, namely, use of digital games. Drawing on important insights gained from the work of Carol Chapelle, this article identifies the parallels between effective tasks and the design elements of many digital games used in CALL. The discussion emphasizes the continuing importance of investigating the interrelationship between developments in SLA research and use of advanced technologies in language education.

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[1]Introduction

Of the many important contributions Carol Chapelle has made to the field of technology enhanced language learning research, there can be little doubt that her work relating to the application and evaluation of new technologies stands out as being of particular significance. As Chapelle herself noted, investigating the use of computer technologies to enhance language learning and teaching represents a long running focus of her research (2016b: 275):

> "Most academics define their careers by the problems that they study. Identifying, refining and expanding on certain problems is a professional journey… on the two problems in applied linguistics that I have worked on over the past thirty-five years… one is how to use computer technologies to innovate and improve language teaching and learning."

In pursuing the above goal, Chapelle has, in a frequently cited body of work, sought to draw the CALL research community's attention to important relevant developments in SLA research (Chapelle, 2009). In well-known examples of this approach, she has emphasized the value of applying insights gained from interactionist SLA research (2005) and highlighted the potential benefits that the findings of SLA research can offer in shaping fundamental research questions, evaluation and paradigms in CALL (1997, 2007, 2009, 2010).

A noteworthy strand of this work concerns exploring the relationship between SLA theory and task-based learning (henceforth TBL). Chapelle (2001: 8) has emphasised the benefits of this approach to supporting systematic theory-informed development work in CALL:

> "One way to bring some useful order to the study of CALL might be to identify what theory of SLA says that actually pertains to the design of CALL tasks, how research can support and refine these suggestions…"

In an effort to achieve this, in several influential papers she has drawn on the findings of SLA research to identify factors that appear important for the design and application of effective TBL in CALL contexts (1997, 1997,1998). As much of this work continues to be of relevance to contemporary CALL research, this discussion will now examine these factors.

SLA, TBL, & CALL

In a seminal paper, Chapelle (1998), analysed the findings of a wide range of both theoretical and classroom-based research drawn from the fields of SLA and TBL to

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identify the optimal conditions for language learning. Based on this analysis, she has proposed seven hypotheses that have direct implications for the design and implementation of TBL in CALL contexts. These are summarized in Table 1:

Table 1

Seven Hypotheses for Developing CALL Learning Materials (Chapelle, 1998, p. 239)

Hypothesis	Construct
"The linguistic characteristics of target language input need to be made salient"	Input enhancement (Sharwood Smith, 1993)
"Learners should receive help in comprehending semantic and syntactic aspects of linguistic input"	Input modification (Larsen-Freeman & Long, 1991)
"Learners need to have opportunities to produce target language output"	Comprehensible output (Swain, 1985)
"Learners need to notice errors in their own output"	Noticing (Schmidt, 1990)
"Learners need to correct their linguistic output"	Focus on form (Long, 1988)
"Learners need to engage in target language interaction whose structure can be modified for negotiation of meaning"	Negotiation of meaning (Long, 1996)
"Learners should engage in L2 tasks designed to maximize opportunities for good interaction"	Features of language tasks (Pica, Kanagy & Falodun, 1993)

As the above table shows, Chapelle has identified a number of constructs articulated in the SLA literature that are of central importance regarding the design of CALL learning tasks. She emphasizes that for tasks to be effective, they should be designed to support the visual salience of target language (henceforth TL) input, as this factor appears critical in facilitating the cognitive processes involved in acquisition. In this context, research suggests that CALL tasks should further be designed to assist the process of learners' self-monitoring. In particular, they should be designed in such a manner as to enable learners to notice errors in their linguistic output and also correct them. In addition, studies indicate that task demands are optimal when they elicit the production of comprehensible TL input. Moreover, another important requirement for beneficial CALL tasks is that they provide plentiful opportunities to support both the production and modification of TL output. Tasks providing these conditions may support learning by enabling learners to focus on form by engaging in forms of interaction that incorporate the negotiation of meaning.

In discussing the implications of SLA and TBL research for the design of CALL tasks, Chapelle has acknowledged (1998; 26) that not all findings of this body of work may be directly relevant. However, there can be little doubt that the hypotheses she has proposed continue to represent a potentially valuable point of departure for task development in CALL (Chapelle, 2016a). In this context, it can be asserted that these hypotheses may be usefully employed in the design of tasks that involve the application of innovative technologies in CALL. One such innovation that is attracting increasing interest from researchers is the use of digital games. This phenomenon will be examined in the following discussion.

Digital Games and CALL

Although the use of digital games in CALL does not represent a recent development, the rise of a new generation of advanced games has sparked renewed interest from researchers. An examination of the contemporary literature shows a significant increase in research in this area in recent years (Li et al., 2024; Thompson & von Gillern, 2020). In a wide range of both theory-informed and learner-based studies, researchers have investigated the use of both commercial games that are designed as entertainment so called "commercial off-the-shelf" (henceforth COTS) games and serious games (Peterson, 2025; Reinhardt & Kirby, 2022). This latter type of game is specifically designed to support learning outcomes within a particular domain. Although the research is subject to significant limitations due to the prevalence of small-scale studies involving limited learner groups and learning contexts (Peterson & Jabbari, 2022), it has nonetheless reported findings indicating that there may be potential benefits to engaging learners with digital games in both formal and informal contexts. As Table 2 shows, learner-based studies involving both COTS and serious games have produced promising results relating to areas associated with SLA. There is evidence from several studies indicating that the extensive exposure to the TL provided by some types of serious and COTS digital games enhances L2 vocabulary learning (Chen & Hsu, 2020; Lin, 2015; Ranalli, 2008). Large scale studies have reported evidence indicating that the vocabulary acquired during game play may be retained and transfer to other contexts (Franciosi, 2017; Franciosi et al., 2016). Moreover, a growing body of learner-based research highlights the beneficial effects of playing digital games on areas associated with language learning. These include fluency, attitudes, motivation, willingness to communicate and skills development (Jabbari & Peterson, 2023; Li et al., 2021; Li et al., 2022; Li et al., 2024; Reinders & Wattana, 2011, 2014, 2015).

Studies further indicate that indirect teacher intervention in the form of support, such as provision of a website incorporating quizzes, culture notes and information on game vocabulary, may enhance vocabulary learning (Ranalli, 2008). Moreover, this approach appears to elicit positive learner attitudes towards language learning with digital games. There is also evidence in the literature that direct teacher intervention in the form of feedback on learner TL output during gameplay sessions may enhance learning outcomes by supporting the production of TL output (Wang, 2019).

Although research is not yet definitive, there is increasing evidence that engaging learners in digital game-based language learning involving both serious and COTS games may be beneficial for aspects of language learning (Dixon et al., 2022; Zou et al., 2019). As work continues, research has recently shifted from largely exploratory work to focus on identifying the specific features of the digital games used in CALL that may facilitate the process of SLA (Dixon, 2021; Reinhardt, 2021). This development is timely, as it draws attention to the parallels between the well-designed digital games that are frequently investigated in CALL research and optimal task design.

Table 2

Use of Digital Games in CALL: Findings of Learner-Based Research

Study(ies)	Findings
Chen & Hsu (2020)	Frequent exposure to TL used in a serious game simulation game supported the acquisition of vocabulary used in the game. Positive learner attitudes toward the project reported.
Franciosi (2017); Franciosi et al., (2016); Lin (2015)	Learners who played serious simulation games made statistically significant gains in vocabulary. Evidence learning gains may transfer to out-of-game contexts.
Jabbari & Peterson (2023)	Two groups of EFL learners improved their TL fluency after playing a COTS massively multiplayer online game.
Li, Peterson & Wang (2021)	Learners reported improvement in their listening and speaking skills after playing a COTS adventure game outside of regular language classes.
Li, Peterson & Wan (2022)	EFL learners who played a COTS adventure game reported high levels of motivation.
Ranalli (2008)	Use of supplementary teacher-designed materials (website incorporating quizzes, culture notes and information on game vocabulary) combined with game play supported vocabulary learning. The context supported positive learner attitudes towards learning in a COTS simulation game.
Reinders & Wattana (2011; 2014; 2015)	Learner's willingness to communicate was enhanced after playing a modified COTS role-playing game. Positive learner feedback was reported across studies.
Wang (2019)	Gameplay involving a COTS simulation game elicited learner production of TL output. Direct teacher interventions in the form of real time feedback to learner requests enhanced learners' knowledge of TL used in the game.

Digital Games and TBL

Research on the application of digital games has expanded as researchers claim that since many digital games provide access to high-quality simulations and engaging content that incorporate collaborative problem-solving activities, they are highly relevant to the needs of many language learners (Reinhardt & Thorne, 2020). Researchers further observe that well-designed digital games incorporate TL content that frequently aligns with many foreign language curricula (Purushotma, 2005). Moreover, it is asserted that as many digital games immerse learners in engaging and purposeful activities that involve extensive exposure to and use of the TL, they provide environments for language learning that are similar to those found in effective classroom language tasks (Purushotma et al., 2009). In this context, the seven hypotheses for optimal task design first proposed by Chapelle (1998) remain highly relevant to contemporary CALL research. The discussion in the remainder of this section will examine research

suggesting well-designed digital games provide access to conditions conducive to SLA in CALL, as first proposed by Chapelle.

The first hypothesis proposed to guide task design in CALL proposed by Chapelle (see Table 1) concerns the visual saliency of TL input. Drawing on the findings of SLA research, Chapelle emphasized the important role of apperception in SLA claiming that tasks should be designed to facilitate this process. Chapelle (1998, pp. 26-27) proposed that the visual saliency of the linguistic features of TL input in CALL environments of the time could be achieved through, for example, the use of colour and highlighting in onscreen text. As the literature on the use of digital games in CALL shows, numerous digital games provide opportunities to support the process of apperception through enhancing the visual saliency of TL input.

As Table 3 shows, one genre of digital game that incorporates design features that facilitate the visual saliency of the TL and that has been extensively investigated in CALL research (Dixon & Christison, 2021; Jabbari & Eslami, 2019) are massively multiplayer online role-playing games (MMORPGs). In the well-known commercial MMORPG *World of Warcraft* (https://worldofwarcraft.blizzard.com/en-gb/) that has been investigated in learner-based studies (Jabbari & Peterson, 2023; Rama et al., 2012; Vosburg, 2017), players have the option to communicate and collaborate in real-time in the TL order to complete game related tasks known as quests. These include purposeful activities such as trading, solving puzzles and exploring the game world. In this game, real-time communication between players can involve use of a text chat interface where colour is employed extensively to facilitate the interaction. In common with many other games of this genre, the player menus used in this game make extensive use of colour to enhance the visual saliency of text and draw attention to important TL content.

Another type of digital game that provides language learners with access to a context where the visual saliency of the TL is enhanced are simulation games. In the popular commercial simulation game *The Sims* (https://www.ea.com/en-gb/games/the-sims), that has been investigated in a number of learner-based studies (Bakar & Nosratirad, 2013; Miller & Hegelheimer, 2006; Ranalli, 2008), players are provided with access to high-quality virtual simulations of real-world urban environments. In this single-player game, to extend the life of their virtual character, players are compelled to undertake everyday activities and overcome the challenges encountered in everyday life, such as holding down a job. If the player fails in these tasks their character may die. *The Sims* immerses players in a highly engaging TL rich environment, encompassing problem-solving and exposure to a wide range of vocabulary found in everyday life. Moreover, this type of simulation game supports the visual saliency of TL text by making extensive use of toolbars, speech bubbles, and on-screen annotations.

Table 3

Features of Digital Games: Hypothesized Benefits

Game Feature(s)	Hypothesized Benefit(s)
Provision of text and voice chat, use of colour, tool bars, speech bubbles and onscreen annotations	Visual saliency of the TL enhanced supporting apperception
Presence of persistent on-screen TL dialogue, real time assistance	Feedback assists reflection supporting the comprehension of TL input
Compel communication in order to complete in-game tasks	Elicits the production of TL output
Provision of rich sources of TL input, availability of scrolling	Facilitate noticing and error correction
Purposeful interaction in the TL (multiplayer games)	Resolution of communication problems through the negotiation of meaning
Provision of tasks involving two-way information exchange (multiplayer and puzzle games)	Access to superior forms of TL interaction, involving the processes of TL input comprehension and output production

In the second hypothesis, Chapelle asserts (1998, p. 23) that CALL tasks should provide learners with assistance in comprehending the semantic and syntactic aspects of TL input. Although there is little work in the current literature regarding focusing on the relationship between syntactic development and digital gaming (Peterson & Jabbari, 2022), there is nonetheless research that highlights the potential of contemporary digital games in fostering the development of learners' semantic knowledge. In an example of this approach, in recent learner-based research reported by Arshad (2024), it was claimed that certain features of the well-known commercial adventure game *Detroit: Become Human* (https://www.quanticdream.com/en/detroit-become-human) may support this aspect of language development. In this plot-driven game, that is played from a third person view, the player's choices influence the course and outcome of a story set in the future. Players also have the option to rewind certain parts of the story to change plot outcomes. In the above research, some participants reported that game generated onscreen TL dialogues and feedback involving, for example, the reactions of virtual characters embedded in the game to player choices, provided a context that supported reflection and raised awareness of the TL. These features of the game play, coupled to the option of rewinding parts of the story, further enabled them to comprehend the meaning of previously unknown vocabulary.

In the third hypothesis, it is proposed that learning tasks in CALL should provide learners with opportunities to produce TL output. Chapelle further observes (1998, p. 23) that the production of TL output by learners is most beneficial when it occurs in contexts that support acquisition. Drawing on the concept of comprehensible output (Swain, 1985), she identifies the production of meaning-focused TL output generated during communication as being of the greatest value in this regard, as this type of output pushes the learner to expand their linguistic resources while attending to meaning. As many types of digital games are specifically designed to facilitate purposeful meaning-focused communication between players, they would appear to be promising venues for TBL. In the context of CALL research, studies involving commercial MMORPGS appear

particularly relevant, as this type of game frequently requires players to communicate in order to successfully complete in-game tasks to progress in the game hierarchy (a process known as "levelling up"). Studies have provided evidence that participation in game play involving this game genre provides ample opportunities for learners to produce a wide range of TL output (Rama et al., 2012; Reinders & Wattana, 2011). Current research in this area further indicates that the quality of the TL output produced by learners is variable (Reinders & Wattana, 2012). Exploratory learner-based studies also suggest that gameplay in MMORPGs may elicit the production of the comprehensible TL output identified by Swain (Rankin et al., 2006; Rankin et al., 2009).

In the fourth and fifth hypotheses proposed by Chapelle (1998, pp. 23-24) it is argued based on findings from SLA research (Schmidt, 1990; Swain & Lapkin, 1995), that CALL tasks should be designed to enable learners to both notice errors in their TL output and correct them. She further asserts that this activity is most beneficial when it occurs during meaning-focused TL communications as this type of interaction may elicit both internal (reflection) or external (assistance or explicit correction) feedback. Chapelle (1998, pp. 27-28) observes that CALL software that involves use of text provides learners with opportunities to notice errors in their TL output and claims that feedback in the form of, for example, onscreen error specific help can assist in the process of error correction. In the above context, digital games that are designed to facilitate purposeful interaction in the TL through the provision of text and voice chat such as MMORPGs, appear to be promising venues for noticing and correction. As is noted in the literature, during interaction in this type of game, players are provided with extensive exposure to rich sources of written and oral TL input (Thorne et al., 2012). This factor coupled to the permanence of online text and the availability of scrolling provides opportunities for learners to become aware of errors in their L2 output. Moreover, learner-based research suggests (Jabbari & Peterson, 2023; Peterson, 2012a) that the task-based real time nature of the communication in this type of game may not only draw learner attention to errors but also enable them to engage in correction, as the context for communication elicits forms of feedback incorporating discourse management strategies involving peer assistance.

In the sixth hypothesis, it is claimed that for learners to develop their L2 competencies, it is necessary for them to overcome communication breakdowns relating to previously unknown TL language through the process of negotiation of meaning (Chapelle, 1998, p. 24). This activity, that involves the production of modified TL during interaction is perceived as beneficial, since it focuses learner attention on gaps in their knowledge of the TL and facilitates the production of comprehensible TL output. Chapelle claimed that CALL tasks should be designed to facilitate this process. Research on the use of MMORPGs in CALL has provided evidence that playing this type of game provides learners with access to conditions where communication problems relating to new TL occur and are resolved through the negotiation of meaning. In an early experimental learner-based

study conducted by Peterson (2012b) it was reported that learners who played the simple MMORPG *NineRift* encountered communication problems during their interaction in the game. Although these issues were not resolved through negotiation, analysis revealed that during game tasks the learners engaged in collaboration involving forms of assistance in the TL.

More recent research has produced evidence that this type of game provides a TL-rich context where negotiation of meaning occurs. In a study reported by Dixon & Christison (2021), data showed that the TL input and output requirements for successful gameplay in *Guild Wars 2* (https://www.guildwars2.com/en-gb/) supported the extensive production of TL output, feedback, and a focus on form. Moreover, game tasks provided learners with opportunities to negotiate TL input during game play with the participants making extensive use of communication strategies such as requests and confirmation checks. In addition, it was found that game tasks mirrored classroom tasks that are believed to support SLA. A learner-based study by Jabbari and Eslami (2023), that involved *World of Warcraft* has produced further evidence suggesting the playing this type of game may provide a meaning-focused environment for communication, where learners are exposed to and able to overcome communication problems in the TL. Data analysis indicated that participants encountered communication problems while undertaking game tasks and these were largely resolved through negotiation of meaning. The researchers claimed that the game and its tasks provided access to an environment for TL interaction where the learners were exposed to comprehensible input and could produce comprehensible output.

In the final hypothesis outlined in Table 1 (hypothesis seven) Chapelle claims (1998, pp. 24-25), based on the findings of SLA and TBL research, that language tasks should be designed to afford learners with maximum opportunities to be exposed to good forms of TL interaction. She draws attention to research highlighting the importance of implementing goal-based communicative tasks that promote a two-way rather than a one-way information exchange, as the former type of activity is seen as more beneficial from the perspective of supporting superior TL interaction, eliciting the processes of input comprehension and output production (Pica et al., 1989, 1993). In CALL research involving digital games, a number of studies have attempted to provide learners with contexts for communication that involve goal-based two-way information exchange. In an example of this approach, a study by Hofmeyr (2021), involved use of the digital puzzle game *Keep Talking and Nobody Explodes* (https://keeptalkinggame.com) with upper intermediate level EFL learners. In this game, one player (known as the defuser) must disarm a bomb with the assistance of other players (known as experts) who have access to a bomb defusal manual, through a two-way information exchange. As the defuser cannot see the manual, they must rely on instructions from the experts. As the experts cannot see the bomb, they must rely on the defuser to describe the bomb to them. Data analysis showed that that the game format elicited communication problems relating to

lexis and that these were resolved through negotiation of meaning. Analysis further indicated that the participants made use of a variety of communication strategies. Clarification requests and elaborations were the most frequent, and use of these strategies facilitated the production of modified TL output.

Future Directions

As was observed in this discussion, recent research on the use of digital games has emphasised the need to identify the specific features of digital games that may facilitate SLA. As the previous section has shown, the seven hypotheses for optimal task design in CALL first proposed by Chapelle remain highly relevant to contemporary work on the use of digital games. As has been noted, the current research on the use of digital games in CALL is subject to limitations and is therefore not definitive. However, as findings reported from the increasing number of learner-based studies are broadly positive, additional work in this area appears warranted. The remainder of this section will examine some areas of potential in future research.

Game Modification

One area that appears promising for future investigation in research concerns the modification of commercial games to incorporate language tasks specifically designed for use in CALL projects. Although work in this area is limited, it has nonetheless produced some promising findings. In an example of this approach, in a small-scale study conducted by Reinders and Wattana (2011) the researchers modified the Thai language version of the commercial MMORPG *Ragnarok Online* (https://iro.ragnarokonline.com) to meet the needs of undergraduate Thai language learners enrolled in a regular language class. In this research, the game was modified to ensure that the tasks aligned with learner language proficiency levels and met the objectives of the regular language course in which the participants were enrolled. The researchers implemented a number of modifications to the original version of the game. The entire game was made available in English on a private server. New and shorter game tasks were implemented that required the learners to use English vocabulary and language skills learned in class. The new game tasks were designed to elicit collaboration involving information exchange. In an example of this approach, in one of the tasks a player was required to obtain a job as a sales assistant in a computer store. This activity required that the player communicate appropriately with the store manager, pass a test of computer knowledge, assist a customer, find required items, exchange information, and assist other players. To complete the tasks, the participants were required to read game texts, listen to and respond to non-player characters (NPCs) and communicate in real-time in the TL with other players using either text or voice chat. During the gaming sessions, the researchers observed that the learners discussed game strategies, solved problems, and participated in decision making. Additional sources of real-time feedback were provided when learners made errors in communicating with NPCs in the form of game-generated TL dialogues.

Participant chat files and responses to a post-study questionnaire were collected. Analysis of this data revealed several significant findings. Data indicated that the game play elicited the production of TL output with this factor increasing over the research. Although the quality of the TL output was variable, data indicated that many of the participants utilized a wide range of TL discourse functions, including use of clarification and confirmation checks, and self-corrections. Analysis further showed that the learners preferred to use text rather than voice chat to communicate in the game and that the predominance of text-based communication reduced errors. Learner feedback indicated that most of the learners found the gameplay to be motivating and claimed that it improved their TL fluency. Moreover, data analysis suggests that for the majority, playing the game reduced anxiety and enhanced willingness to communicate.

Teacher Intervention

Another area of likely interest in future research is the role of the teacher. Researchers have noted that to maximize learning outcomes, teacher intervention has an important role to play in projects involving digital games (deHaan, 2021). To date, work in this area has two main strands. In one approach, involving indirect intervention, educators have implemented supplemental learning materials as part of a learner-centred project. In small-scale classroom-based research conducted by Ranalli (2008), a website was designed by the researcher to support a CALL project that involved the simulation game *The Sims*. This site was designed to assist learners in completing game tasks and meet their learning needs. The site incorporated information on vocabulary used in the game, weekly quizzes, culture notes and game play instructions. Data was collected from the weekly tests and pre- and post-tests focusing on vocabulary encountered in the game. A post-project survey was also administered. Mixed methods were used to analyse the data. Statistical analysis of the test data confirmed that combining game play with the use of supplementary materials supported vocabulary learning. Responses to the survey indicated that the participants had a generally favourable attitude towards playing the game and to the supplementary materials. In addition, the participants viewed these materials as having an important role in improving their language skills.

An alternative teacher role investigated in research focuses on combining both indirect and direct forms of intervention. Research reported by Wang (2019) has investigated this approach in a learner-based project that involved weekly game play in *The Sims*. In this longitudinal study, two learner groups participated: an experimental group and a control. The experimental group (12 learners) played the game as part of a language course and completed weekly vocabulary quizzes on TL found in the game. The control (12 learners) played the game in their free time outside of class. Intervention came in several forms. First, direct teacher instruction occurred when the researcher (who was the course instructor) instructed the whole class in game vocabulary and skills. Second, the teacher also provided feedback to individual learners during gameplay. Third, peer interaction, where the learners were requested to consult with their partners in the L2 when issues

arose. Finally, in-game activities, where learners were given specific tasks to complete in the game such as making friends and finding a job. Learners were also required to record interesting episodes of game play, which were later discussed in student presentation sessions. Data was collected from surveys, a post-study questionnaire, interviews, vocabulary quiz scores, and recorded gameplay sessions.

Quantitative data analysis revealed no significant differences between the experimental group and the control in terms of vocabulary learning. The researcher speculated that this finding was in part, due to the small sample size and unequal game time between the two groups. However, the qualitative analysis produced promising findings. Learner feedback data showed that the learners in the experimental group enjoyed playing the game and that they found direct teacher instruction and in-class activities (particularly presentations) to be helpful in supporting learning of useful everyday vocabulary and fluency. The learners in this group further claimed that peer interaction during the game play did not, for the most part, assist vocabulary learning. The researcher speculated that in order to enhance the beneficial effects of direct teacher intervention, future studies should control the size of the classroom to achieve the optimal balance in time allocation between instruction, activities, and gameplay. It was further asserted that the benefits of peer interaction could be enhanced by designing game quests with a greater focus on vocabulary and adopting a wider variety of in-class game related activities.

Conclusion

Advances in technology and SLA theory have long acted as a stimulus to development work in the field of CALL, and in this context, innovations in research work and praxis continue. The emergence of digital game-based language learning represents one such influential innovation. As an examination of the literature shows, the increase of work in this field in recent years highlights the growing interest in this important area. This discussion has drawn attention to the parallels between the features of good CALL language learning tasks first proposed by Carol Chapelle and well-designed digital games. It has also identified the specific features of digital games that have been implemented in CALL research that appear beneficial in facilitating aspects of SLA. Promising areas for future work have been highlighted including the use of game modification and teacher intervention. This discussion further demonstrates the continuing relevance of Carol Chapelle's work on contemporary CALL research. As research in this area moves forward, her groundbreaking work continues to challenge the research community to explore new points of departure in CALL research and pedagogy.

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Mark Peterson developed the conceptualization for this research. Mark Peterson and Robert Swier conducted the investigation of relevant literature. Mark Peterson created the orginal draft with input from Robert Swier. Mark Peterson and Robert Swier reviewed and edited the final draft.

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World Medical Association (WMA) Declaration of Helsinki–Ethical Principles for Medical Research Involving Human Participants

This research was conducted in accordance with the ethical principles outlined in the World Medical Association's Declaration of Helsinki .

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The authors declare no competing interests.

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