The Influence of Game-Enhanced Communication on EFL Learners’ Pragmatic Competence in Compliment Responses

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A small number of studies have explored the effects of digital gaming on second/foreign language (L2) pragmatic competence. However, the effectiveness of massively multiplayer online role-playing games (MMORPGs) germane to L2 pragmatic development remains unclear because most game-mediated pragmatics studies have focused on educational games. Adopting the interactionist approach, this pretest-immediate-posttest-delayed-posttest study investigated the influence of an MMORPG on L2 learners’ pragmatic competence in compliment responses. Specifically, 105 English-as-a-foreign-language learners from a university in China interacted with L1-English-speaking players in World of Warcraft for four weeks. Unlike most studies that have conducted discourse completion tasks for data collection, compliment responses were gathered through computer-mediated communication with L1-English-speaking interlocutors on WeChat. Results showed that the learners tended to deny compliments on the pretest, whereas they preferred to accept praise on the immediate and delayed posttests. Implications for language policy-making and teaching are discussed regarding the usefulness of MMORPGs for learners who are not immersed in the environment of the target language or have few opportunities to go abroad to experience various social contexts in an L2.

Introduction

Game-mediated learning has received growing attention in the field of second/foreign language (L2) acquisition. The meta-analysis conducted by Dixon et al. (2022) showed that the majority of previous studies have examined the influence of digital gaming on L2 vocabulary acquisition (e.g. Grimshaw and Cardoso 2018; Chen and Hsu 2019; Sundqvist 2019). Other subfields remain relatively under-researched, for instance, game-mediated L2 pragmatics (Sykes and Dubreil 2019).

In recent years, a small yet increasing number of studies have explored the impact of playing digital games on L2 learners’ pragmatic competence. However, the existing literature is inconclusive regarding the effectiveness of video games in L2 pragmatic development. Some studies have revealed the positive effects of playing online games on L2 pragmatic competence (e.g. Peterson 2011; Sykes 2013; Tang and Taguchi 2021; Taguchi et al. 2022), whereas other studies have not...
found digital gaming to be effective in promoting L2 pragmatic development (e.g. Sykes 2009; McNeil 2020). Thus, further investigation is warranted to determine the efficacy of video games in L2 learners’ pragmatic competence for the purposes of helping them engage in smooth intercultural communication, avoid unnecessary miscommunication, and maintain great interpersonal relationships (Zhang 2023).

In addition to the mixed findings mentioned above, the benefits of commercial-off-the-shelf games such as massively multi-user online role-playing games (MMORPGs) (e.g. World of Warcraft [WoW]) for L2 pragmatic development are currently unclear as most game-mediated L2 pragmatics studies have concentrated on educational games (e.g. Sykes 2013; Tang and Taguchi 2021; Taguchi et al. 2022). It is worth investigating the effectiveness of MMORPGs because they might expose L2 players to rich and authentic target-language input produced by first language (L1) speakers or advanced L2 users (e.g. requesting assistance from teammates, expressing gratitude to fellow players for their help, celebrating accomplishments after completing challenging quests). This type of naturalistic L2 input is often not readily available in English-as-a-foreign-language (EFL) classrooms (Loewen and Sato 2018). Moreover, MMORPGs may provide learners with real-life communicative opportunities to use an L2 in various social contexts. Due to the genuine purpose of fulfilling quests and the need for collaboration, players are constantly engaged in interaction (Reinhardt and Sykes 2014). The interaction entails various discourse functions (Reinders and Wattana 2014), for example, making suggestions regarding which route to take, offering encouragement, complimenting fellow players on their enhanced gaming skills, and responding to compliments. These L2 learning affordances associated with MMORPGs are particularly valuable for the L2 pragmatic development of EFL learners who lack immersion in the target language and communicative opportunities to experience a variety of social contexts in English.

Thus, the present study implemented a pretest-immediate-posttest-delayed-posttest design to investigate the impact of an MMORPG (i.e. WoW) on Chinese EFL learners’ pragmatic competence in compliment responses (CRs) (Details regarding this speech act are discussed in the section: Target Pragmatic Feature). This study aims to contribute to the domain of L2 pragmatics and the field of digital game-mediated language learning by gaining insights into the efficacy and lasting effectiveness of MMORPGs in fostering L2 learners’ pragmatic competence.

Literature review

Theoretical framework: Interactionist approach

The overarching tenet of the interactionist approach (Long 1996; Gass and Mackey 2015) is that interaction promotes L2 acquisition because it has the potential to provide learners with target-language input as well as explicit or implicit feedback, which may direct L2 learners’ attention to certain linguistic features and cause them to modify their output. Most L2 studies that employed the interactionist approach have focused on grammar (e.g. Sato and Loewen 2018; Can Daşkin and Hatipoğlu 2019), vocabulary (e.g. Zhao and Bitchener 2007; Simard and Jean 2011), and pronunciation (e.g. Gurzynski-Weiss et al. 2017; Loewen and Isbell 2017). Investigating pragmatics from the interactionist perspective has received scant attention (Loewen and Sato 2018). More studies that examine the impact of interaction on L2 pragmatic competence are warranted (Loewen and Sato 2018). One promising avenue for such investigation involves exploring how pragmatics-related input and feedback during MMORPG-mediated interaction might contribute to L2 learners’ pragmatic development.

Input.

Input is defined as ‘the language that a learner is exposed to in a communicative context’ (Gass and Mackey 2015: 265). It is the sine qua non for L2 acquisition because it supplies important evidence, based on which students can establish linguistic hypotheses (Gass and Mackey 2015). In other words, target-language input can function as positive evidence, which provides L2 learners
with models of conventional language use regarding how L1 speakers of the target language or proficient L2 users perform certain pragmatic features (e.g. responding to compliments).

As mentioned in the Introduction section, in MMORPGs, L2 players might be immersed in rich and naturalistic target-language input (e.g. making requests, giving/receiving compliments), which can serve as positive evidence for L2 players and provide them with insights into how to realize certain pragmatic features in a target-like manner.

**Feedback.**

In addition to the benefits of target-language input, feedback through interaction is essential in that it provides L2 learners with information in reference to not only conventional but also unconventional pragmatic performance. One of the defining features of MMORPGs is individualized and prompt feedback from online games themselves or from fellow players through interaction. L2 players may experience the consequences of their pragmatic choices by obtaining prompt feedback from other players, such as implicit feedback (e.g. confirmation checks ‘Is that what you mean?’), clarification requests ‘Huh?’ and ‘What?’, comprehension checks ‘Do you follow me?’), and/or explicit feedback (e.g. metapragmatic explanations related to a pragmatic feature) (Gass and Mackey 2015; Gass et al. 2020). Feedback can be particularly beneficial for EFL learners because the majority of L2 courses provide little structured instruction on pragmatics (Taguchi and Roever 2017). Consequently, many L2 learners, including advanced L2 users, pay less or no attention to the pragmatic dimension of L2 acquisition (Gass et al. 2020). Implicit or explicit feedback through interaction in MMORPGs may increase the saliency of certain pragmatic features, raise L2 players’ pragmatic awareness, and alert them to the distinctions between unconventional pragmatic production in their interlanguage and conventional pragmatic performance in the target language. Then, L2 players might direct their selective attention to their unconventional pragmatic choices. To avoid potential communication breakdowns, they may modify their output and test newly established hypotheses concerning a pragmatic feature in an L2, which might lead to more target-like utterances (Long 1996; Gass and Mackey 2015).

In the area of L2 pragmatics, a small body of research has explored the influence of feedback during gameplay on L2 learners’ pragmatic competence (e.g. Tang and Taguchi 2021; Taguchi et al. 2022). For instance, Tang and Taguchi (2021) found the facilitative impact of explicit feedback (e.g. text-based explanations regarding pragmalinguistic errors) and implicit feedback through built-in characters’ facial expressions (e.g. puzzled, glad) in Questaurant on EFL learners’ improved performance in recognizing formulaic expressions. Similarly, Taguchi et al. (2022) revealed that implicit feedback (i.e. facial expressions) via A Day on Campus positively affected Chinese EFL learners’ productive knowledge regarding making requests on both immediate and delayed posttests. These studies have provided us with valuable insights into the beneficial influence of feedback on L2 pragmatic competence in the context of educational games. It is worth noting that the effectiveness of interactional feedback (e.g. clarification requests, confirmation checks) provided by human players via MMORPGs in L2 pragmatic competence remains unclear.

To sum up, instead of simply focusing on assessing the effects of a technological tool on L2 learners’ pragmatic performance, the current study drew on the important concepts of input and feedback from the interactionist approach (Long 1996; Gass and Mackey 2015) to investigate the influence of interaction in WoW on Chinese EFL learners’ pragmatic competence in CRs.

**Digital gaming**

Digital game-mediated language learning subsumes three categories: (i) game-based learning, (ii) game-informed learning, and (iii) game-enhanced learning (Reinhardt 2019). Game-based learning refers to educational games that borrow specific gaming characteristics and combine them with components from real life with the goal of engaging learners in interactive, playful, and dynamic learning (Reinhardt and Sykes 2014). Game-informed learning or gamification involves applying game-related theories within a broader context of L2 teaching/learning (e.g. curriculum development, the design of instructional materials) (Reinhardt 2019). Game-enhanced learning is
defined as the application of commercial-off-the-shelf games that are not deliberately designed to promote pedagogical or learning goals (Reinhardt and Sykes 2014). The current study focused on game-enhanced learning.

The impact of digital gaming on L2 pragmatic competence

A growing number of studies have explored the influence of digital gaming on L2 pragmatic competence (e.g. Thorne 2008; Palmer 2010; Peterson 2011; Sykes 2013; Ko 2020; McNeil 2020; Tang and Taguchi 2021; Taguchi et al. 2022). Some studies have found the facilitative effects of playing digital games on L2 pragmatic competence (e.g. Peterson 2011; Sykes 2013; Tang and Taguchi 2021; Taguchi et al. 2022). In the context of game-enhanced learning, Peterson (2011) examined intermediate and advanced Japanese EFL learners’ speech acts. Their in-game chats showed that after playing Allods, the learners began to frequently adopt positive politeness strategies (Brown and Levison 1987), such as greeting fellow players (e.g. ‘How are you doing?’) and expressing gratitude (e.g. ‘Thank you for your help.’), to establish rapport and solidarity within the gaming community. In the context of game-based learning, Sykes (2013) investigated L2 Spanish learners’ production of apologies and requests via Croquelandia. An analysis of the learners’ written discourse completion tasks (DCTs) revealed that the gaming intervention led them to adopt apology strategies that were conventionally used by L1 speakers of Spanish (e.g. explaining). In a more recent study, Taguchi et al. (2022) explored the influence of playing A Day on Campus on how Chinese EFL learners made requests. The results of written DCTs showed that playing this educational game had a positive impact on the EFL learners’ productive knowledge regarding making requests on an immediate posttest and a two-week delayed posttest.

Although previous studies have reported the benefits of digital gaming for L2 pragmatics acquisition (e.g. Peterson 2011; Sykes 2013; Tang and Taguchi 2021; Taguchi et al. 2022), other studies have found that playing online games may not promote L2 pragmatic development (e.g. Sykes 2009; McNeil 2020). In the context of game-based learning, Sykes (2009) explored the influence of playing Croquelandia on how proficient L2 learners of Spanish made requests. The results of DCTs showed no significant differences between the participants’ pretest requests and posttest requests. Turning to the context of game-enhanced learning, McNeil (2020) examined whether playing WoW for three months could heighten Korean EFL learners’ pragmatic awareness. The analysis of the students’ gaming journals revealed that playing WoW did not enhance their L2 pragmatic awareness.

Clearly, there is limited research that examines the impact of digital gaming on L2 pragmatics acquisition (Sykes and Dubreil 2019). Moreover, the existing literature is inconclusive regarding the efficacy of digital gaming in promoting L2 learners’ pragmatic competence. Furthermore, of the referenced studies, only a few studies have carried out delayed posttests (e.g. Tang and Taguchi 2021; Taguchi et al. 2022). Crucially, the lasting effectiveness of MMORPGs in relation to L2 pragmatic development remains unclear, with most game-mediated pragmatics studies focusing on educational games.

Additionally, the bulk of game-mediated pragmatics studies have used DCTs to collect data. As Taguchi and Roever (2017) pointed out, DCTs are void of interactive exchanges and real-world ramifications. Owing to a dearth of spontaneous and authentic interactive data in the extant literature, there is still uncertainty about the impact of a gaming intervention on students’ pragmatic competence when they perform socio-culturally meaningful tasks in interactive contexts in the real world. One way to address the limitations of DCTs is by capitalizing on computer-mediated communication (CMC) between L2 learners and L1 speakers of the target language as a method of assessment. Through this approach, not only can students use an L2 in more authentic contexts where they experience the socio-affective consequences of their pragmatic choices, but also researchers are able to gather more natural interactive data involving students’ real-life pragmatic behaviors. Accordingly, the current study collected data through synchronous text-based CMC on WeChat (i.e. a multi-purpose application including instant messaging) to examine the effectiveness and lasting efficacy of game-enhanced communication via WoW in Chinese EFL learners’ CRs.
Target pragmatic feature

CRs can be defined as ‘a verbal acknowledgment that the recipient of the compliment heard and reacted to the compliment’ (Nelson et al. 1996: 413). CRs were selected as the target speech act in the present study because responding to compliments is a culturally bound behavior (Zhang 2022). Prior studies (e.g. Chen 1993; Chen and Yang 2010; Wu and Kaur 2017; Zhang 2022) have found that L1 Chinese speakers are more likely to decline compliments, whereas L1 English speakers prefer to deploy the acceptance strategy. Such cultural differences in CR behaviors have the potential to result in communication missteps. The consequences can be unfavourable to L2 learners in that L1 speakers may ascribe miscommunication not to linguistic factors but to individuals (e.g. personality) or cultural factors (Gass et al. 2020). If linguistically and culturally diverse players speak English as a lingua franca for the purposes of engaging in smooth communication, establishing solidarity within the online gaming community, and maintaining harmonious relationships with fellow players, they need to build common ground and acquire certain linguistic as well as pragmatic routines (Palmer 2010). Importantly, the mastery of conventional CRs in English can help L2 players from various L1 backgrounds establish common ground and rapport with other players (Tang and Taguchi 2021). These benefits of using conventional CRs can also be extended to the real world and contribute to effective intercultural communication in real life.

In the extant literature, three predominant CR strategies have been identified: acceptance, evasion, and denial (Chen and Yang 2010; Zhang 2022). A host of studies have investigated Chinese EFL learners’ CRs in the face-to-face context (e.g. Chen 1993; Chen and Yang 2010; Wu and Kaur 2017). For example, Chen (1993) discovered that English learners from China were more disposed to deny compliments, whereas speakers of American English preferred to adopt the acceptance strategy. Chen further pointed out that Chinese speakers had a predilection for utilizing ‘self-praise avoidance strategies’ (Chen 1993: 59) (e.g. evasion and denial) to demonstrate modesty. Contrary to Chen’s (1993) research, however, Chen and Yang (2010) found that Chinese speakers used the acceptance strategy more commonly than the other two strategies. Similarly, the results of role-plays in the study by Wu and Kaur (2017) showed that Chinese-speaking participants were inclined to accept praise.

The CR behaviors that Chinese EFL learners exhibit in the online context may become even more complex (e.g. Eslami and Yang 2018; Zhang 2022). First, a few technology-mediated studies have revealed that it is challenging for Chinese EFL students to produce target-like CRs by deploying a variety of CR sub-strategies. For example, the results of computerized DCTs in Zhang (2022) indicated that even though Chinese EFL students adopted the acceptance strategy more frequently than the evasion and denial strategies, their CRs consisted of a simple reply of ‘thank you’. They did not implement a conventional array of sub-strategies (e.g. explaining, expressing gladness). Zhang (2022) attributed this finding to the possible impact of the learners’ limited L2 pragmatic knowledge and their lack of pragmatic awareness. In addition, other technology-mediated studies have shown variations in Chinese EFL learners’ CRs. Eslami and Yang (2018) found that Chinese L2 learners of English were more likely to accept compliments on Facebook, whereas they declined praise on Renren.

Given the important functions of CRs (e.g. common-ground building during intercultural communication) and the complexity of CRs influenced by an assortment of factors (e.g. cultural values), there is a clear need to further explore Chinese EFL learners’ CR behaviors.

The present study

This study adopted the interactionist approach (Long 1996; Gass and Mackey 2015) and investigated the effectiveness and lasting efficacy of game-enhanced communication via WoW in Chinese EFL learners’ pragmatic competence in CRs. The following research question (RQ) guided the current study.

To what extent can game-enhanced communication via WoW have a positive and/or lasting effect on Chinese EFL students’ production of CRs in English?
**Method**

**Participants**

Initially, 125 Chinese EFL learners were randomly selected from a public university in China. After the screening stage, 20 students were screened out because eight of them had never played MMORPGs before, and the remaining 12 students were beginner EFL learners. Thus, 105 Chinese EFL students (55 females, 50 males) participated in the current study. Their scores on the Test of English as a Foreign Language (TOEFL) indicated that they were intermediate English learners ($M = 80.19$, $SD = 2.35$). A background questionnaire (see Supplementary Appendix A) showed that no learners had visited an English-speaking country, and all students planned to apply for graduate schools in the United States after completing their undergraduate programs. Moreover, the questionnaire revealed that all of them had played MMORPGs for 1–2 hours per week for one year. EFL learners with gaming experience instead of novice players were recruited because the Limited Attentional Capacity Model (Skehan 2014) states that people have limited cognitive resources and attention. According to this model, multitasking, such as simultaneously learning gameplay rules in an L2 and conducting communication in an L2, necessitates dividing up attentional resources and induces selectivity. Novice L2 players’ unfamiliarity with MMORPGs might cause them to become preoccupied with priorities related to learning the fundamental aspects of game mechanics (e.g. keyboard controls) and divert their focus from the social and communicative aspects of language use, potentially impeding their L2 pragmatic development (see Rama et al. 2012). Therefore, to facilitate L2 socialization through community interaction within MMORPGs, ‘gaming skills or other forms of gaming cultural capital might be necessary’ (Reinhardt 2019: 289). Additionally, the analysis of the participants’ EFL textbooks and other instructional materials showed that metapragmatic explanations of CR strategies were not covered. Pseudonyms were used to replace the learners’ real names.

In addition to the EFL learners, 105 L1 English speakers (53 females, 52 males; $M_{age} = 21.22$, $SD = .63$), who were American exchange students studying at another university in China, were recruited. A pre-experiment background questionnaire (see Supplementary Appendix B) showed that all of them had played MMORPGs for 2–3 hours every week for three years. Each of them was randomly assigned to one of the EFL learners to play WoW at the intervention stage. Prior to the first gaming session, they selected a designated realm, chose their characters from the Alliance, and added each other as friends in WoW.

To assess the EFL learners’ CRs at the testing stage, an additional 105 L1 speakers of American English (56 females, 49 males; $M_{age} = 22.10$, $SD = .49$) were recruited as interlocutors for the CMC-based pretest, immediate posttest, and delayed posttest. They were undergraduate students majoring in Education at a university in the United States.

**Material used for the intervention: WoW**

WoW was the material utilized for the gaming intervention in the current study. In WoW, players worldwide collaborate to defend a virtual world named Azeroth against various threats by completing meaningful and goal-oriented quests (e.g. players join forces to rescue the wounded in the Shadowlands expansion of WoW).

WoW was selected in this study for four reasons. First, previous studies have shown the efficacy of playing WoW in developing L2 learners’ pragmatic competence, for instance, interactional skills such as opening and closing conversations in Ko (2020) and negotiation of meaning in Thorne (2008). Second, WoW offers a wide range of contexts where compliments and CRs may occur naturally. For example, an L2 player complimented his L1-English-speaking fellow player on his avatar’s transmog (e.g. gear). The L1 English speaker replied, ‘Thanks. I’m glad to hear that.’ Another instance is that after defeating in-game monsters, an L2 player received a compliment from her L1-English-speaking teammate, ‘Nice job!’ The L2 learner responded with ‘No, no.’ These examples demonstrate that WoW not only enables L2 learners to be exposed to authentic and contextualized target-language input related to CRs but also...
gives them opportunities to practice replying to compliments. Third, compared with other genres of CMC (e.g. telecollaboration via Zoom), the narrative components and the sheltered feature (e.g. allowing anonymous gameplay) of MMORPGs create an engaging and low-anxiety environment where the repercussions of taking risks are minimal, and the likelihood of experiencing embarrassment or losing face is reduced (Reinhardt 2019). These hallmarks of MMORPGs may alleviate L2 anxiety (see Peterson 2011) and enhance L2 motivation (see Reinders and Wattana 2014). Mitigated anxiety and increased motivation might encourage L2 players to actively practice pragmatic features, thereby potentially facilitating their L2 pragmatic development. Fourth, in comparison to many educational games that are designed for L2 learners of one specific target language, large-scale MMORPGs like WoW offer multiple language options and are readily available to a vast number of L2 learners of different target languages across the globe. If positive findings are obtained from this study, MMORPGs such as WoW could offer benefits not only to Chinese EFL learners but also to L2 learners around the world who have few opportunities to travel abroad to practice the target language. Due to these four reasons, WoW was chosen as the material for the gaming intervention.

**Instrument: CMC-based conversation tasks**

In a conversation task, ‘participants converse about a topic’ (Kasper 2008: 287). One of the advantages of using this instrument to collect data is that unlike DCTs and role-plays, participants can maintain their real-life identities during conversation tasks without acting out fictitious scenarios (Taguchi and Roever 2017; Nguyen 2019). This enables them to engage in more authentic and meaningful interactions in the target language. Second, different from DCTs and role-plays, which lack real-world consequences (Taguchi and Roever 2017), ‘data elicited via conversation tasks are close to those of naturalistic conversations in that they are spontaneous and can be consequential’ (Nguyen 2019: 198).

On the pretest, immediate posttest, and delayed posttest, the EFL learners’ CRs were collected through synchronous text-based conversations with L1 English speakers on WeChat. Each test focused on a different theme related to daily life (see Table 1). The background questionnaire (see Supplementary Appendix A) showed that all learners were familiar with the topics selected for the three tests. Moreover, to avoid order effects, the three topics were counterbalanced across the three tests.

For each test, one L1-English-speaking interlocutor was randomly assigned to interact with one EFL learner via text on WeChat. The purpose of using random pairing was to eliminate the potential influence of interlocutor familiarity on the participants’ pragmatic production on the three tests. To create the context for the L2 learners to produce CRs, each L1 English speaker gave four compliments (i.e. one compliment in each of these four categories: appearance/clothing, personality, ability/performance, and objects) to one EFL learner during each conversation. According to Chen (1993) and Zhang (2022), these are the four most common areas in which people pay compliments. Moreover, for the purposes of ensuring smoothly flowing conversations and assisting the L1-English-speaking interlocutors in providing each EFL learner with four compliments, all learners were told to prepare three digital pictures of themselves and upload one photo during each test. This allowed the L1 English speakers to praise the L2 learners based on the content of the pictures. For instance, an L1-English-speaking interlocutor might compliment an EFL learner on his/her jacket shown in the photo. The texts of their conversations were screen-recorded and saved immediately after each test was completed.

| Table 1: Topics of the tests |
|-------------------------------|-------------------------------|-------------------------------|
| **Topic 1**                   | **Topic 2**                   | **Topic 3**                   |
| Hobbies                       | Food                          | College life                  |
Data collection

This study lasted 10 weeks. Table 2 presents the schedule for the current study.

Preparation.

All EFL learners completed a background questionnaire regarding their English-learning experience and gaming experience. Additionally, to ensure that the 105 U.S.-based interlocutors conducted the three CMC-based tests similarly (i.e. providing each learner with four compliments during each test), prior to the experiment, they received orientation in reference to the procedures for the three tests (e.g. a step-by-step guide to giving four compliments during each conversation).

Pre-intervention.

On the pretest, each EFL learner engaged in a 40-minute text-based conversation on WeChat with one U.S.-based interlocutor. Additionally, the EFL learners were given 1-hour training in Chinese with respect to how to add a friend in WoW and how to use Whisper (i.e. a one-on-one text-based chat system) in WoW.

Intervention.

Each EFL learner was randomly paired with one American exchange student to play WoW collaboratively on an American server. The game texts and audio were in English. Moreover, each learner was asked to only communicate with the assigned player (i.e. the American student) during each gaming session. The EFL learners engaged in game-mediated activities in WoW (e.g. players collaborate to retrieve stolen first-aid kits from Murlocs to rescue survivors in the Shadowlands expansion) once a week for four weeks in the university’s computer room. Since the EFL learners played WoW in the computer room, the participants were asked to use Whisper in WoW to conduct text-based communication instead of using Voice Chat to interact with their fellow players, so as not to disturb other participants. Additionally, with the participants’ consent, each gaming session was screen-recorded. Moreover, the texts of their in-game chats were saved through an add-on.

Immediate post-intervention.

An immediate posttest was administered after the final gaming session. The EFL learners had a synchronous text-based chat with the U.S.-based interlocutors via WeChat.

Table 2: Process of data collection

<table>
<thead>
<tr>
<th>Stage</th>
<th>Time</th>
<th>Duration</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Week 1</td>
<td>20 min</td>
<td>A background questionnaire</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90 min</td>
<td>Orientation for U.S.-based interlocutors</td>
</tr>
<tr>
<td>Pre-intervention</td>
<td>Week 2</td>
<td>40 min</td>
<td>A pretest: A text-based conversation via WeChat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60 min</td>
<td>Training conducted in Chinese for the L2 players (e.g. how to use the chat system in WoW)</td>
</tr>
<tr>
<td>Intervention</td>
<td>Weeks 3–6</td>
<td>60 min per gaming session</td>
<td>Play WoW</td>
</tr>
<tr>
<td></td>
<td>Week 6</td>
<td>40 min</td>
<td>An immediate posttest: A text-based conversation via WeChat</td>
</tr>
<tr>
<td>Post-intervention 1</td>
<td>Week 6</td>
<td>40 min</td>
<td>A delayed posttest: A text-based conversation via WeChat</td>
</tr>
<tr>
<td>Post-intervention 2</td>
<td>Week 10</td>
<td>40 min</td>
<td></td>
</tr>
</tbody>
</table>
**Delayed post-intervention.**

To investigate whether game-enhanced communication via WoW exerted a lasting effect on Chinese EFL students’ production of CRs in English, a delayed posttest was conducted four weeks after the immediate posttest. It is worth mentioning that all participants were asked not to play WoW during the four-week interval between the immediate posttest and the delayed posttest to eliminate the potential influence of continued exposure to the gaming environment.

**Data analysis**

Three EFL learners were excluded from the data analysis because they did not use Whisper to conduct text-based communication during the gaming intervention. Thus, the remaining 102 Chinese EFL learners’ in-game chat history and their scores on the pretest, immediate posttest, and delayed posttest were used for data analysis. The dataset collected from the three CMC-based tests contained a total of 1,224 CRs produced by the EFL students (not including CRs from the gaming sessions). With respect to data coding, the present study adopted the taxonomy of CR strategies in Chen and Yang (2010) and Zhang (2022) (see Supplementary Appendix C). First, the 1,224 CRs were coded for 13 sub-parts under three broad types: (i) acceptance (e.g. ‘Thank you. You did a great job, too.’), (ii) evasion (e.g. ‘Are you sure?’), and (iii) denial (e.g. ‘I don’t think so.’).

Then, a five-level rating scale in Zhang’s (2022) research was adapted to evaluate the EFL learners’ CRs (see Table 3). This rating scale included two criteria: (i) conventionality and (ii) diversity of the CR sub-strategies. Additionally, this rubric was tested with a pilot study. Data coding and scoring were conducted separately by two raters. They were L1 English speakers with doctoral degrees in Linguistics. To ensure reliability in their evaluation of CRs, the raters were given two training sessions regarding how to utilize the rubric. Meanwhile, sample data were available for them to practice scoring before they evaluated the actual data. Cohen’s kappa was used to assess the interrater reliability; high agreement was reached for all three tests: the pre-test (.95), the immediate posttest (.97), and the delayed posttest (.96). Moreover, the internal reliability of each of the three CMC-based tests was high (Cronbach’s alpha coefficient = .83, .85, and .86, respectively).

To answer the RQ regarding the positive and/or lasting influence of game-enhanced communication via WoW on Chinese EFL learners’ production of CRs, SPSS 29 was used to conduct

<table>
<thead>
<tr>
<th>Rating</th>
<th>Conventionality and Diversity</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The participant produces a conventional compliment response in the target language by employing the thanking strategy under the acceptance category. Moreover, the participant deploys at least one sub-strategy (e.g. agreeing) under the acceptance category.</td>
<td>Thanks. I feel the same way!</td>
</tr>
<tr>
<td>3</td>
<td>The participant produces a conventional compliment response in the target language by employing the thanking strategy under the acceptance category. However, the participant does not deploy a sub-strategy (e.g. agreeing) under the acceptance category.</td>
<td>Thanks.</td>
</tr>
<tr>
<td>2</td>
<td>The participant produces a somewhat unconventional compliment response in the target language by employing the evasion strategy (e.g. questioning).</td>
<td>Are you sure?</td>
</tr>
<tr>
<td>1</td>
<td>The participant produces an unconventional compliment response in the target language by employing the denial strategy (e.g. disagreeing).</td>
<td>I don’t think so.</td>
</tr>
<tr>
<td>0</td>
<td>The participant does not reply to the praise.</td>
<td>No response.</td>
</tr>
</tbody>
</table>
statistical analyses. The results of Shapiro-Wilk tests revealed that the data were normally distributed (pretest: \( p = .390 \), immediate posttest: \( p = .503 \), delayed posttest: \( p = .272 \)). Moreover, the result of Mauchly’s Test of Sphericity showed that the assumption of sphericity was met (\( p = .121 \)). Because the underlying assumptions were met, a repeated measures analysis of variance (RM-ANOVA) was conducted, followed by pairwise comparisons with a Bonferroni correction (.05/3 = .017). Cohen’s \( d \) values were calculated to examine effect sizes, and they were interpreted according to the field-specific benchmarks (small = .60, medium = 1.00, large = 1.40; Plonsky and Oswald 2014).

**Results**

Before answering the RQ, the researcher verified that the U.S.-based interlocutors performed similarly for all EFL learners at the testing stage; each American interlocutor gave four compliments to one EFL student during each CMC-based test. This section reports three findings: (i) the facilitative and lasting impact of game-enhanced communication via WoW on Chinese EFL learners’ production of CRs, (ii) the diversity of the EFL learners’ CR sub-strategies on the three tests, and (iii) the L1-English-speaking players’ input related to CRs and their feedback occurred at the intervention stage.

**Positive and lasting effects of game-enhanced communication on EFL learners’ CRs**

Table 4 displays the descriptive statistics of the EFL learners’ mean scores for CRs on the three tests. Figure 1 presents the results visually. The results of the RM-ANOVA revealed a statistically significant difference in the EFL learners’ CRs across the three tests, \( F(2, 202) = 419.02, p < .001, \eta^2_p = .806 \). The results of post hoc pairwise comparisons showed that their CR score on the immediate posttest was significantly higher than their CR score on the pretest, \( M_{\text{difference}} = 1.62, SD = .61, t(101) = 26.89, p < .001, d = 2.66 \). Additionally, their CR score on the delayed posttest significantly surpassed their CR score on the pretest, \( M_{\text{difference}} = 1.64, SD = .72, t(101) = 23.08, p < .001, d = 2.29 \). However, there was no significant difference in the EFL learners’ CR scores between the immediate posttest and the delayed posttest, \( M_{\text{difference}} = .02, SD = .64, t(101) = .36, p = .720, d = .04 \). Altogether, these results indicate that in contrast to the Chinese EFL learners’ tendency to deny praise on the pretest, they showed a preference for employing the acceptance strategy to respond to compliments in English after the game-enhanced communication via WoW. Furthermore, the effectiveness of the gaming intervention in the EFL learners’ pragmatic competence in CRs was maintained on a four-week delayed posttest.

**Diversity of Chinese EFL learners’ CR sub-strategies on the three tests**

Related to the RQ, a further investigation of the second criterion in the rubric (i.e. the diversity of L2 learners’ CR sub-strategies) showed that although the Chinese EFL learners adopted the acceptance strategy more frequently than the other two strategies on the immediate posttest and the delayed posttest (see Figure 2), most of them simply responded to compliments with
‘thank you’ or ‘thanks’. In other words, their replies lacked diversity in CR sub-strategies (e.g. explaining, agreeing).

L1-English-speaking players’ input related to CRs and their feedback at the intervention stage

To further explore the potential influence of target-language input and feedback during game-enhanced communication in WoW on the EFL learners’ pragmatic competence in CRs, the CRs and interactional feedback provided by the L1-English-speaking players during gameplay were examined. First, the in-game chat history demonstrated that each L1-English-speaking player produced a mean of 2.85 CRs per gaming session ($SD = .16$). Moreover, 92.36% of their CRs adopted the acceptance strategy (see Figure 3). Furthermore, 81.85% of their CRs were followed by another CR sub-strategy under the acceptance category (e.g. thanking + expressing gladness).
Second, during each gaming session, each L1-English-speaking player provided implicit feedback on his/her fellow player’s CRs, including confirmation checks ($M = 1.01, SD = .03$) and clarification requests ($M = 1.16, SD = .07$). It is worth mentioning that the CRs and feedback offered by the L1-English-speaking players during gameplay were spontaneous and not prompted.

**Discussion**

The current study adopted a pretest-immediate-posttest-delayed-posttest design to investigate the facilitative and/or lasting impact of game-enhanced communication via an MMORPG on Chinese EFL learners’ pragmatic competence in CRs. The following two findings are discussed in this section.

**Positive and enduring effects of game-enhanced communication on L2 learners’ pragmatic competence in CRs**

The results showed that the EFL learners produced significantly more conventional CRs in English (i.e. accepting compliments) after engaging in game-enhanced communication via WoW for four weeks. This finding is consonant with those of prior studies, which have revealed that playing digital games has a positive impact on promoting L2 learners’ pragmatic competence (e.g. Peterson 2011; Sykes 2013; Taguchi et al. 2022). Moreover, the effectiveness of game-enhanced communication via WoW in the EFL learners’ pragmatic competence in CRs was sustained after four weeks. This finding is congruent with that of Taguchi et al. (2022), which showed that L2 players’ improved performance in making requests was maintained on a two-week delayed posttest. Furthermore, the findings of the present study fill the gap in the extant literature and extend our understanding of the lasting efficacy of MMORPGs in L2 pragmatics acquisition, which is an under-researched area.
One possible factor to account for the effectiveness of game-enhanced communication via WoW in fostering the EFL learners’ pragmatic competence in CRs is related to the vital role of target-language input. The analysis of the L1-English-speaking players’ in-game CRs showed that they were inclined to adopt the acceptance strategy. Their frequent implementation of the acceptance strategy during the game-enhanced interaction might supply the Chinese EFL learners with authentic and meaningful CR-related input. According to the interactionist approach (Long 1996; Gass and Mackey 2015), authentic and meaningful target-language input can serve as positive evidence, which might have provided the L2 players with models of what types of CRs are considered conventional in English. This finding provides further support for the crucial role of input within the interactionist approach (Long 1996; Gass and Mackey 2015) from the perspective of L2 pragmatics.

Another way to interpret the facilitative and lasting effects of game-enhanced communication via WoW on the EFL learners’ production of CRs might be germane to the vital role of feedback within the interactionist approach (Long 1996; Gass and Mackey 2015). WoW enabled the L2 players to make pragmatic choices in a wide range of social contexts and allowed them to experience the socio-affective consequences of their L2 pragmatic choices in a naturalistic setting by obtaining prompt feedback from other players, for example, an L1-English-speaking player’s implicit feedback on an L2 player’s CRs. The EFL learners’ improved CR scores on the two posttests might be attributed to the implicit feedback provided by the L1-English-speaking players during gameplay. To illustrate the possible influence of the L1 English speakers’ implicit feedback on the L2 players’ CRs, to begin with, an EFL learner’s pretest CR was displayed in Excerpt 1. Then, the same EFL learner’s CRs that occurred during the game-enhanced communication, along with his fellow player’s implicit feedback, were shown in Excerpt 2. Figure 4 displays the pertinent gameplay still and in-game whisper in WoW. After that, an example of this L2 player’s CRs on the delayed posttest was presented in Excerpt 3.

First, the pretest data showed that prior to the gaming intervention, John (an EFL learner) had a tendency to decline compliments. In Excerpt 1, after John received a compliment from Max (an L1-English-speaking interlocutor) on his photo-taking abilities (Line 01), he declined the praise by saying, ‘No, I don’t think so’ (Line 02). It seems that John relied on his L1 pragmatic knowledge and adopted the conventional way of responding to compliments in Chinese to reply to praise in English. This finding is in line with those of prior studies, which have revealed that Chinese speakers were inclined to employ ‘self-praise avoidance strategies’ (Chen 1993: 59) (e.g. denial) to demonstrate modesty.

Figure 4: Screenshot of gameplay and whisper in WoW.
Excerpt 1

John’s pretest CR

01 Max: You are really good at taking photos!
02 John: No, I don’t think so.

Excerpt 2 and Figure 4 show that in WoW, after John (his avatar: Bestpriest) successfully found Captain Garrick’s son Henry ahead of his L1-English-speaking teammate Sean (his avatar: Madgaa), John received a compliment from Sean on his improved gaming skills (Line 01). Similar to how he replied to praise on the pretest, John declined the compliment by saying, ‘No, no, no’ (Line 02). Sean first responded with a clarification request, ‘Huh?’ (Line 03), indicating confusion or surprise. Then, he did a confirmation check by asking, ‘If I understand correctly, you’re saying that you don’t think you made improvements? Is that what you mean?’ (Lines 04 and 05). After getting the implicit feedback from Sean, John might have noticed his fellow player’s confusion, which might have alerted him to the possibility that his CR was not conventional in English. He seemed to direct his selective attention to this speech act. To avoid miscommunication and repair potential communication breakdowns, John negotiated for meaning by making interactional adjustments, modifying his L2 output, and testing a newly established hypothesis: adopting the acceptance strategy with an appreciation token (Lines 06 and 07). This time, Sean’s response started with ‘Haha’ (Line 08), suggesting that his previous confusion might have dissipated, and a positive atmosphere was created. Sean continued, ‘You are more than welcome’ (Line 08), conveying a sense of willingness to help others and to build rapport and goodwill between individuals. Subsequently, Sean emphasized his previous compliment by saying, ‘Indeed, you have made a lot of progress’ (Line 09). It was likely that because John received a positive reaction from Sean (e.g. ‘Haha, you are more than welcome’ followed by a repeated compliment) about his modified CRs in Lines 06 and 07, he continued to employ the acceptance strategy with an appreciation token to respond to praise in Line 10.

Excerpt 2

Sample implicit feedback during gameplay

01 Sean: Wow, you have made a lot of progress
02 John: No, no, no
03 Sean: Huh?
04 If I understand correctly, you’re saying that you don’t think you made improvements?
05 Is that what you mean?
06 John: I mean, thank you
07 Thank you for your kind words
08 Sean: Haha, you are more than welcome
09 Indeed, you have made a lot of progress
10 John: Thank you very much

The data from the immediate and delayed posttests revealed that after the gaming intervention, John continued to adopt the acceptance strategy when replying to praise in English. In Excerpt 3, after Adam (an L1-English-speaking interlocutor) complimented John on his painting skills (Line 01) on the delayed posttest, he accepted the praise with an appreciation token: ‘Thank you’ (Line 02). This CR is similar to John’s CRs in Lines 06 and 07, and 10 in Excerpt 2. It seems that the impact of the L1-English-speaking player’s implicit feedback during game-enhanced communication on John’s CRs in English was maintained after four weeks.

Excerpt 3

John’s CR on the delayed posttest

01 Adam: You are an awesome painter!
02 John: Thank you.

The positive influence of the L1 English speakers’ implicit feedback during game-enhanced interaction on the L2 players’ pragmatic competence echoes the efficacy of implicit feedback through built-in characters’ facial expressions via an educational game in Tang and Taguchi.
The present finding provides additional evidence regarding the effectiveness of implicit feedback in increasing L2 learners’ pragmatic competence, which is an under-studied area. Furthermore, this finding adds to our understanding of the facilitative effects of interactional feedback naturally provided by human players during game-enhanced communication on L2 learners’ pragmatic competence. Other human players’ feedback during real-life and spontaneous interactions in MMORPGs allows L2 players to experience the socio-affective consequences of their L2 pragmatic choices. Thus, the current study and the study by Tang and Taguchi (2021) collectively indicate that implicit feedback in MMORPGs (e.g. fellow players’ clarification requests, confirmation checks) or in educational games (e.g. built-in characters’ facial expressions) has the potential to foster L2 learners’ pragmatic competence.

Diversity of L2 learners’ CR sub-strategies at the assessment stage

Although the EFL learners preferred to employ the acceptance strategy on the immediate posttest and the delayed posttest, most of them responded to compliments with a simple ‘thank you’ or ‘thanks’, and their replies lacked diversity in CR sub-strategies (e.g. expressing agreement). Nevertheless, the majority of the L1-English-speaking players’ in-game CRs were followed by another CR sub-strategy under the acceptance category (e.g. thanking + expressing gladness). This finding echoes Zhang’s (2022) study, which demonstrated that L1 English speakers tend to adopt a combination of CR sub-strategies instead of relying solely on the thanking strategy. However, it seems that the L2 players did not notice their teammates’ inclination to deploy the thanking sub-strategy coupled with other sub-strategies. Similar findings were revealed in Zhang’s (2022) study, which suggested that Chinese EFL learners have difficulty in employing a wide array of CR sub-strategies possibly due to their lack of L2 pragmatic knowledge and pragmatic awareness.

Another way to elucidate the EFL learners’ inattention to the second part of their fellow players’ conventional two-part CRs (e.g. thanking + explaining) might be related to limited attention caused by multitasking. The EFL learners simultaneously completed incrementally challenging quests in WoW and engaged in communication in their L2. According to the Limited Attentional Capacity Model (Skehan 2014), the shifting between tasks during multitasking requires dividing up attentional resources and brings about selectivity. This may explain the EFL learners’ selective attention to the more perceptually salient portion—the first part of a conventional two-part CR (e.g. ‘thanking’ in ‘thanking + explaining’) and account for their inattention to the second component of a conventional CR (e.g. ‘explaining’ in ‘thanking + explaining’).

Conclusion

This pretest-immediate-posttest-delayed-posttest study revealed a facilitative and lasting influence of game-enhanced communication in WoW on Chinese EFL learners’ pragmatic competence in CRs. These findings build on previous research, which has shown that digital gaming exerts a positive impact on L2 pragmatics acquisition (e.g. Peterson 2011; Sykes 2013; Tang and Taguchi 2021; Taguchi et al. 2022). Moreover, these findings contribute to the domains of L2 pragmatics, digital game-mediated language learning, and ludology by filling the gap in the existing literature regarding the efficacy and lasting effectiveness of game-enhanced communication via MMORPGs in promoting L2 learners’ pragmatic competence. Theoretically, the current study lends support to the important roles of input and feedback in the interactionist approach (Long 1996; Gass and Mackey 2015) from the perspective of L2 pragmatics acquisition.

Limitations and future directions

First, this study only focused on one pragmatic feature. It would be valuable to expand the purview of the investigation to other pragmatic features in the context of digital gaming (e.g. implicatures). Second, future studies may examine the relationship between individual difference variables (e.g. motivation, anxiety) and L2 learners’ pragmatic performance during game-enhanced communication. Moreover, the CMC-based assessment in this study was text-based. Future studies may conduct
video-based CMC (e.g. Voice over Internet Protocol [VoIP] via Zoom) to explore the paralinguistic aspect of CRs (e.g. body language) in addition to assessing participants’ verbal responses.

**Implications**

First, the current study offers insights that could inform language policy-making with respect to enhancing access to MMORPGs and incorporating digital games into language-learning programs and in-service teacher training. As the findings of this study have shown, MMORPGs may provide L2 learners with communicative opportunities, authentic and meaningful target-language input, and prompt interactional feedback. These characteristics of MMORPGs are particularly valuable for schools where teachers/students are not immersed in the environment of the target language or may not have opportunities to go abroad to experience a variety of social contexts in an L2 due to financial restrictions, geographic boundaries, or the pandemic.

Second, the present study provides useful pedagogical implications for L2 instructors by suggesting that they capitalize on the benefits of MMORPGs where possible through the incorporation of game-enhanced communication into their curricula or self-study programs. For instance, L2 teachers may diversify students’ assignments by asking them to play an MMORPG in an L2 for limited periods of time and encouraging them to reflect on their gaming experience through debriefing and journaling (e.g. recording how their fellow players make requests in the target language).

In short, the findings of the current study suggest that language policy-makers, L2 instructors, and researchers leverage the advantages and excitement of the digital world (e.g. MMORPGs) to promote L2 learners’ pragmatic competence.

**Notes on Contributors**

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**Notes**

1 Previous game-mediated L2 pragmatics studies (e.g. Tang and Taguchi 2021; Taguchi et al. 2022) administered a two-week delayed posttest. The present study conducted a four-week delayed posttest to further examine the lasting impact of a gaming intervention.

2 During the gaming sessions, 1,171 CRs were produced by the L1-English-speaking players, and 1,182 CRs were produced by the L2 players.

3 Only the frequencies of confirmation checks and clarification requests were reported because the other type of implicit feedback (i.e. comprehension checks) and explicit feedback on the L2 players’ CRs did not occur in their in-game chat history. The absence of explicit feedback on the EFL learners’ CRs echoes what Taguchi et al. (2023) pointed out, ‘Because of the face needs involved in pragmatics, in real-life situations, people do not usually correct learners’ pragmatic errors explicitly nor provide direct metapragmatic explanation’ (Taguchi et al. 2023: 221).

**References**


