Technology-Mediated Pragmatics Instruction: Learning Request-Making Through Game-Based Tasks in L2 Learners

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Abstract
This study investigates the impact of technology-mediated pragmatic teaching on L2 learners. Through task-based games, we explored how to instruct English learners in China to learn the speech act of request-making. The game in this study showcases several scenarios to players, including virtual conversations between learners and professors, employers, and friends on a virtual American campus. 105 undergraduate students from a university in China participated in this study, covering 10 virtual request scenarios. They are supposed to choose the most appropriate expression in the context presented in the text and video. According to their choice, the corresponding video of the game will display real-time feedback from the interlocutor, which is the authentic reaction and consequence of the learner’s selection, that is, the other party’s response to the request, such as happily accepting, reluctantly accepting, or refusing the request. The results indicate that in game-based teaching, learners gain much more productive knowledge than receptive knowledge. The participants improved their productive knowledge of making requests after playing the game and maintained this gain at delayed post-tests, but their receptive knowledge remained almost unchanged. In addition, metapragmatic knowledge is positively correlated with the participants’ learning outcome of request-making.

Keywords: technology-mediated, digital games, pedagogic tasks, request-making, metapragmatic knowledge

1. Introduction
Traditional research shows that pragmatics is very important for establishing smooth communication, maintaining harmonious relationships, and avoiding negative images or stereotypes. When L2 learners interact with native speakers, communicative errors usually come down to a lack of linguistic competence. However, these mistakes cannot be simply attributed to the lack of language ability. Thomas (1983) pointed out that pragmatic failures in second language are attributed to obvious rudeness or unfriendliness, not because of any language defects, but because of rudeness or malice. Therefore, pragmatic competence is considered a basic element of communicative
According to different feedback, and finally achieve the goal of learning.

2. Literature Review

2.1 Teaching Pragmatics

Scholars believe that the teachability of pragmatics and classroom instructions are very necessary for the development of pragmatic competence. They put forward different ideas on the instructions such as explicit teaching, implicit teaching, the combination of the two, and communicative activities, as well as explicit teaching in the classroom plus extracurricular implicit guidance. Some research has compared various teaching methods and pragmatics instruction methods (Taguchi, 2015; Taguchi & Roever, 2017).

Until now, explicit and implicit instructions have been the main focus of the field. According to the original definition of Kasper (2001), the explicit method directly provides metapragmatic explanations, that is, explaining to learners what form to use and how to express appropriately. Explicit teaching methods are based on the Noticing Hypothesis (Schmidt, 1993). Noticing the form, function, and contextual features of language is a necessary condition for pragmatics learning. Direct metapragmatic explanations can promote attention and achieve better learning results. While implicit instruction attempts to indirectly cultivate learners’ understanding of pragmatic features through input, awareness raising and implicit feedback. For example, presenting to learners more pragmatic expressions and their corresponding results.

Existing research shows that there is no unified conclusion on the effects of explicit teaching and implicit teaching. A meta-analysis of 50 studies by Plonsky and Zhuang (2019) showed that explicit instruction is more effective than implicit instruction. Similarly, Yousefi and Nassaji (2019) made a meta-analysis of 36 studies also showing that explicit methods are more effective than implicit methods. However, Taguchi’s (2015) comprehensive narrative analysis of 48 studies argued that implicit methods can be equally effective as explicit methods if teachers consciously guide learners to pay attention to focal pragmatic features and process them at a deeper level. Taguchi emphasizes that effective instruction can be closely related to in-depth processing of target pragmatic features, rather than a simple
dichotomy.

Since pragmatics involves face needs and relational harmony, implicit feedback is particularly important for pragmatics learning that focuses on the nuances of language use in social and interpersonal contexts. In real life, when people communicate, they usually do not explicitly correct learners’ pragmatic errors, let alone provide direct and clear metapragmatic explanations. On the contrary, through non-verbal cues (such as facial expressions, gestures and tone, etc.) learners can realize their pragmatic mistakes and then reflect on whether their speech behavior is appropriate and how to improve it. Since implicit feedback is more practical than explicit feedback, and relevant research is not sufficient, implicit feedback and teaching have more practical value and space for research.

2.2 Pedagogic Tasks for Teaching Pragmatics

In recent decades, scholars and teachers have been increasingly interested in using pedagogical tasks as a means of language teaching (Long, 2015; Van den Branden, Bygate & Norris, 2009). Through empirical research, the characteristics of pedagogical tasks that can promote L2 learning and development have been confirmed. Although there is no agreed definition for pedagogical tasks so far, several basic characteristics have been confirmed: focusing on practical meaning; language used in real life; authentic problems to be solved, and explicit nonverbal consequences (e.g., Long, 2015). These features are widely adopted in the design and implementation of second-language pedagogical tasks.

Researchers of task-based language teaching have explored different aspects of linguistic development. Pragmatics is a newly emerging field (González-Lloret, 2019; Taguchi & Kim, 2018). Pragmatics reflects the relationship between linguistic form, communicative function realized by form, and the context in which form-function mappings are realized (Thomas, 1983). Pragmatic learning involves cultivating the understanding of form-function-context mapping. This is challenging for L2 learners because the mapping is usually not obvious in real-life communication. Therefore, the task-based teaching method, which uses social situation interaction and realistic communication goals, provides a feasible framework for L2 pragmatics teaching.

Previous studies have developed pedagogical tasks to promote the learning and proper use of pragmatic features such as speech acts and pragmatic markers. The task of some studies is to elicit learners to use specific pragmatic expressions to achieve communicative goals (Ekiert et al., 2018; Levkina, 2018), and other studies focus on the meta-pragmatic discussion triggered by tasks and the impact of these tasks on learning outcomes (Taguchi & Kim, 2016). The research has proved that pedagogical tasks exerted a positive effect on pragmatic knowledge, indicating that pragmatic teaching can be realized through task-based methods. However, the existing studies are not sufficient, and more research is needed to prove it.

Pragmatics teaching objectives and tasks are categorized into different task types. From the target tasks such as “Ask the professor to write a letter of recommendation”, “Ask the boss for leave”, “Ask a friend for help” and “Ask a stranger for help”, we can extract the target task type: “Ask others for help”, because these interactions have many common elements. Based on this general type, teaching tasks are developed and sorted to guide students to carry out the target tasks. These teaching tasks can be carried out in various forms, such as individual activities, pair activities, group activities, input/output-based activities, audio/video-based activities, oral activities, or written activities. These teaching tasks are goal-oriented and focus on meaning rather than form. Task-based teaching method pays more attention to form, that is, when learners engage in meaning-centered communication activities, they will get feedback for specific linguistic forms. As long as it is related to the completion of the task, useful and necessary feedback can occur at any time in the process of teaching tasks. (González-Lloret, 2016)

2.3 Technology-Mediated, Task-Based Pragmatics Learning

With the development of science and technology, L2 pragmatic research has adopted technology-based tasks to promote the teaching and learning of pragmatic features, including address forms (Van Compernolle, 2010), occupation field (Cunningham & Vyatkina, 2012), request (Cunningham, 2016) and emotional expression (González-Lloret, 2016). With the computer as the medium,
communication based on text and video, virtual environment, simulated scenes, and games provide more space for learners to participate in real-life tasks that traditional classrooms cannot achieve. These tasks allow learners to interact with interlocutors of the target language in a virtual world or animated game to complete the tasks. For example, Sykes (2013 and 2019) investigated the situation of Spanish second language learners learning two speech acts of request and apology in a virtual environment and interacted with computer-generated characters by simulating real-life tasks, such as meeting professors or borrowing books.

In recent decades, it has become an important direction to apply technology in task design and implementation. González-Lloret and Ortega’s (2014) research on technology-mediated TBLT emphasized the best conditions for the combination of technology and tasks. They put forward that “task and technology are the ideal integration of mutually beneficial relations”, and at the same time stressed that technology not only helps to create new digital tasks, but also shapes language use and learning related to tasks. In pragmatics teaching and learning, technology-mediated tasks can greatly improve the level of interaction and social context outside the traditional classroom (González-Lloret & Ortega, 2018). Other studies show that tasks in computer-assisted communication can help learners use various pragmatic resources for meaningful interaction, including emoticons (González-Lloret, 2016), and pronouns of the addressee (Belz & Kinginger, 2003). Other tasks in a comprehensive environment provide learners with rich multimodal space, and they can use various speech act strategies to simulate conversations (Sykes, 2013). These studies put forward the direction for developing technology-based pragmatics teaching tasks by paying attention to task characteristics and task implementation strategies.

2.4 Games-Based Pragmatics Instruction

As one of the products of technological progress, digital games have entered the research horizons of linguistic scholars at the beginning of the 21st century. A review by Ko and Esmami (2021) found 16 empirical studies published after 2000. Some studies focused on learning outcomes based on researcher-designed educational games (Sykes, 2013), while other studies gave prominence to the visibility of recreational digital games (Peterson, 2012). Game-based learning can draw on local game design principles when developing learning activities. Games also provide more opportunities for pragmatics teaching because they provide an immersive environment where learners can practice their second language in various social situations through simulated games. As Sykes & Dubreil (2019) argue, in digital games, learners can “simulate a range of participant roles in different social situations”, while experiencing the consequences of their pragmatic choices through timely and targeted feedback. In view of these potential benefits, digital games can change the current lack of practical experience in pragmatics teaching and provide interactive opportunities and the implementation of autonomous learning (Taguchi, Li, & Tang, 2017). In the study by Tang & Taguchi (2021), designed pedagogical tasks were provided through digital games to learn the English form of the speech act of request.

Although the current literature has identified a strong correlation between the characteristics of tasks in TBLT and digital games, existing research on game-based pragmatics instruction is mostly descriptive, and empirical studies are sparse. It is not enough for us to design and implement effective teaching tasks in digital games to promote pragmatic learning. There is even less research on the learning outcomes produced by game-based teaching tasks, so studies comparing L2 learning outcomes between experimental groups of game-based learning and control groups also need to be conducted.

3. Research Questions

Using a digital game as a platform for the investigation, this study intends to enrich the literature on technology-mediated task-based pragmatics learning, as well as the studies on metapragmatic knowledge in L2 learners. The following research questions are addressed in the study:

RQ1: What are the effects of game-based tasks on the outcome of L2 learners’ knowledge of request-making?

RQ2: What is the relationship between L2 learners’ metapragmatic knowledge and the learning outcome of request-making?

4. Methods

4.1 Participants

105 undergraduate students enrolled at a
university in China, who are native speakers of Mandarin Chinese, participated in the study. They have been learning English for 11.2 years on average. None of the participants had studied abroad. 36 of them claimed they never play a digital game, 54 reported they play games several times a week, and 15 people said they play games almost every day.

4.2 Materials

4.2.1 The Digital Game

Participants play 18 scenarios (10 target request scenarios and 8 other filler scenarios) divided into two sessions, each beginning with a practice scene. The scenes depict virtual daily activities on campus with professors, employers, and friends.

4.2.2 Learning Outcome Assessment

Online recognition and production tests were carried out through pretest, immediate post-test, and delayed post-test. Fine-tuned wording and settings in the test were made in the parallel version. The production test was conducted before the recognition test to avoid the impact of target forms on participants in their output.

There are 13 multiple-choice questions in the recognition test, with 8 target request-making items and 5 filler items. Participants were supposed to choose the most appropriate form of request from the four options based on the scenario presented in the video. 3 points are awarded for choosing the most desirable form, 2 points for choosing the less desirable option, and 1 point for choosing the least desirable form.

The production test consists of four target request items and three such filler items as refusal or apology items. Participants should write the appropriate request form for a given scenario presented in the text. The scores were rated in two parts for the target item: one for the request form (Table 1) and the other for the justification of the request (Table 2). If the participant used the bi-clausal form, such as “I was wondering if...” and “Is there any way/chance...?”, three points were awarded. Two points were awarded for using the indirect form of a single clause, such as “Can I...?” and one point was given for the direct form of a single clause, such as “Do X”. If the request is unclear or hard to understand, the participant just got zero. On the other hand, if the participant gave a clear and appropriate reason for the request, two points were awarded. If the reason was too vague or inappropriate, the participant could get 1 point and zero if no reason was given or the reason was incomprehensible. Two researchers scored the samples, with a kappa agreement of 0.94. Any disagreements were resolved by discussion.

<table>
<thead>
<tr>
<th>Score</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Request is given clearly using a bi-clausal form (e.g. I was wondering if I could…; It’d be good if you do….)</td>
</tr>
<tr>
<td>2</td>
<td>Request is given clearly using a mono-clausal indirect form (e.g. Can I…? How about doing…?)</td>
</tr>
<tr>
<td>1</td>
<td>Request is given clearly using a mono-clausal direct form (e.g. Do…; You should do…)</td>
</tr>
<tr>
<td>0</td>
<td>Request is unclear or incomprehensible due to excessive errors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>There is a clear and appropriate justification supporting the request</td>
</tr>
<tr>
<td>1</td>
<td>There is a justification supporting the request, but it is either too vague or inappropriate</td>
</tr>
<tr>
<td>0</td>
<td>No justification is provided, or it is incomprehensible due to excessive errors</td>
</tr>
</tbody>
</table>

4.2.3 Metapragmatic Knowledge Assessment

Participants completed a One Question survey in
their preferred language either Chinese or English after playing the game. It was open-ended and let participants write down their thoughts about what they learned in the game-based learning. Two Chinese-English bilingual researchers rated all participants’ responses based on a six-point rubric involving three areas: form, justification, and context. The inter-rater agreement rate was high, with a Cohen’s Kappa agreement of .81. Any disagreements were resolved through discussion. Table 3 presents the scoring rubric of metapragmatic knowledge.

Table 3. The Scoring Rubric of Metapragmatic Knowledge

<table>
<thead>
<tr>
<th>Score</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Mentioned using appropriate forms (e.g. bi-clausal form) when making a request</td>
</tr>
<tr>
<td>1</td>
<td>Mentioned using less appropriate forms (e.g. conventional indirect forms) or avoiding inappropriate forms (e.g. direct forms)</td>
</tr>
<tr>
<td>0</td>
<td>No mention of forms</td>
</tr>
<tr>
<td>2</td>
<td>Mentioned the importance of providing a clear and convincing justification for supporting a request</td>
</tr>
<tr>
<td>1</td>
<td>Mentioned the importance of providing a justification for a request but did not specify how clear or convincing the justification is</td>
</tr>
<tr>
<td>0</td>
<td>No mention of a justification</td>
</tr>
<tr>
<td>2</td>
<td>Mentioned pragmatics-specific contextual factors related to request-making (e.g. setting and interlocutor relationships)</td>
</tr>
<tr>
<td>1</td>
<td>Mentioned general contextual factors unrelated to request-making (e.g. talking to different people)</td>
</tr>
<tr>
<td>0</td>
<td>No mention of contextual factors</td>
</tr>
</tbody>
</table>

4.3 Data Collection and Analysis

Data were collected in the computer lab and completed in four sessions. In Session 1, two surveys (background information and motivation test) and the Oxford Language Placement Test were conducted. In Session 2, participants completed the pretest and completed the first half (9 scenarios) of the game. 2 days later, the second half (9 scenarios) of the game and the immediate post-test were completed in Session 3. Two weeks later, in Session 4, a delayed post-test was completed.

To address the research question of whether participants improved their knowledge of request-making after playing the game, The Friedman Test was conducted separately for the recognition and production test scores, with test sessions (pretest, immediate post-test, and delayed post-test) as a within-subject factor. As for the research question of the relationship between metapragmatic awareness and L2 learners’ performance of request-making, correlation analyses were conducted between the metapragmatic knowledge scores ranging from 0 to 6 and test scores of immediate post-test and delayed post-test for recognition and production.

5. Results

5.1 Effects of Game-Based Tasks on the Outcome of L2 Learners’ Knowledge of Request-Making

Table 4 displays the descriptive statistics of pretest, immediate post-test, and delayed post-test results of recognition test.

Table 4. Descriptive Statistics of Recognition Test

<table>
<thead>
<tr>
<th>Session</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Mean 95% CIs</th>
</tr>
</thead>
</table>

73
Table 4 shows the recognition scores across the test sessions. The Friedman Test for the participants’ recognition test scores were not significantly different across test sessions for request-making, $\chi^2 = .36, p = .84 >0.05$. The results indicated that the recognition scores were not significantly higher at the immediate post-test than at the pretest. However, there was a decline between the immediate post-test and delayed post-test. (Figure 1)

<table>
<thead>
<tr>
<th></th>
<th>Mean 1</th>
<th>Mean 2</th>
<th>N</th>
<th>Mean 95% CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretest</td>
<td>21.14</td>
<td>2.21</td>
<td>105</td>
<td>[20.27-21.57]</td>
</tr>
<tr>
<td>immediate post-test</td>
<td>21.18</td>
<td>2.62</td>
<td>105</td>
<td>[20.67-21.69]</td>
</tr>
<tr>
<td>delayed post-test</td>
<td>20.98</td>
<td>2.37</td>
<td>105</td>
<td>[20.52-21.44]</td>
</tr>
</tbody>
</table>

![Figure 1. Estimated Marginal Means of Recognition Test Scores through Sessions](image)

As shown in Figure 1, participants did not show any gains after the instruction on their receptive knowledge of request-making, for their recognition scores were high before the instruction. The accuracy of the pretest was 88.5%, while that of the delayed post-test was 87.4%.

Table 5 displays descriptive statistics of the pretest, immediate post-test, and delayed post-test results of the production test.

<table>
<thead>
<tr>
<th>Session</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Mean 95% CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretest</td>
<td>11.72</td>
<td>4.16</td>
<td>105</td>
<td>[10.92-12.53]</td>
</tr>
<tr>
<td>immediate post-test</td>
<td>15.01</td>
<td>4.22</td>
<td>105</td>
<td>[14.19-15.83]</td>
</tr>
<tr>
<td>delayed post-test</td>
<td>15.06</td>
<td>3.53</td>
<td>105</td>
<td>[14.37-15.74]</td>
</tr>
</tbody>
</table>

The Friedman Test for production test revealed a significant effect of sessions on production scores of request-making, $\chi^2 = 63.39, p = .0001 <0.05$. The Wilcoxon Test showed a significant difference between the pretest and immediate post-test, $Z = -6.60, p = .0001<0.05$. There was also a significant difference between pretest and delayed post-test, $Z = -7.08, p = .0001<0.05$. But no significant difference was found between immediate and delayed post-test, $Z = -.16, p = .88 >0.05$. These findings indicated that participants made a gain in their production of request-making after the game-based instruction and maintained the gain at the delayed post-test. (Figure 2)
The Relationship Between L2 Learners’ Metapragmatic Knowledge and Learning Outcome of Request-Making

Table 6 presents descriptive statistics of metapragmatic knowledge scores. The average score is only 1.05, relatively low out of the total score 6. The standard deviation is high up to 1.08, indicating that there was a large variation in participants’ metapragmatic knowledge scores.

<table>
<thead>
<tr>
<th>Metapragmatic knowledge</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>score</td>
<td>1.05</td>
<td>1.08</td>
<td>0</td>
<td>5</td>
<td>[0.84–1.26]</td>
</tr>
</tbody>
</table>

The metapragmatic knowledge also correlated with their test performance after the game-based task. Table 7 displays the Spearman’s rho correlation results for request-making. There is a significant positive relationship between metapragmatic knowledge scores and both immediate and delayed post-test scores for request-making in receptive knowledge ($p < 0.05$). The two test scores are lowly correlated with the metapragmatic score with the following coefficients respectively, $\rho=0.29$, and $\rho=0.26$. As for the analysis of productive knowledge, metapragmatic knowledge also significantly correlated with both immediate and delayed production test scores for request-making, with the following coefficients respectively, $\rho=0.42$, and $\rho=0.36$.

6. Discussion

This study explored whether L2 learners of English can improve their knowledge of the request speech act by playing the digital game. The immediate reaction and the perlocutionary feedback help learners to evaluate and ascertain their performance. Through the gameplay, the learners improved in productive knowledge of
request-making, and the gain in the knowledge was retained at the delayed post-test. While they got no improvement in their receptive knowledge.

The lack of any gain for receptive knowledge of request-making was unexpected. It might be because the participants had known knowledge of request-making, which is quite similar to that in their native language and culture, such as using an indirect way or justification of the request. Therefore, they did quite well at the pretest with a high accuracy of 88.5% on the recognition pretest, so they had little room to improve their receptive knowledge after playing the game. While the case in production score was considerably different, which showed only about a 60% accuracy rate at the pretest. This meant the participants could not use the knowledge they had known in real-life communication skillfully. After they completed the tasks designed in the game, the participants learned how to produce request-making. Capitalizing on the already-existing receptive knowledge, they were able to apply targeted pragmalinguistic forms and they could maintain this ability at delayed posttest.

Further analysis found that learners only engaged in receptive practice (multiple-choice questions) with no productive practice during the game. However, the implicit instruction was more effective for productive skills than receptive skills, and the delayed post-test indicated that learners' productive knowledge was still maintained better than that at pretest compared with receptive knowledge. This shows the transfer of knowledge from cross-modalities. The results of this study support the claim of skill acquisition theory (DeKeyser, 2007), verifying that input-based game practice helps learners acquire and perform the speech act of request-making.

The perlocutionary effect in this game facilitates learners' awareness of their interlocutor's non-verbal feedback such as tones and facial expressions as well as the consequences such as accepting happily/ reluctantly the request or refusing it. Learners can evaluate their use of expressions and modify the form. Although it is implicit without explicit explanation, it seemed to be indicative enough for learners to match the linguistic forms and the functions. Therefore, this sequence instructed learners to process target features in an appropriate way, leading to the gain of knowledge.

The blending of technology and tasks can expand the scope of the current TBLT literature (González-Lloret & Ortega 2014, 2018). The technology-mediated task-based game in this study provided L2 learners with the opportunity to experience the authentic consequences of their request-making. In this way, learners could avoid the face-threatening or embarrassment in real-life communication, so that they were encouraged to learn and produce much more than they could do in traditional tasks. The characteristics of these game-based tasks live up to such design elements of digital games as clear goals, problem-solving, interaction, corresponding feedback, progression checks, participant agency, and contextualized meaningful language practice (Reinhardt, 2019).

Hence, the pedagogic tasks designed based on the interactional game can facilitate the teaching and learning pragmatics much better than the traditional tasks in language instructions.

The findings that learners' metapragmatic knowledge correlated with their post-test scores of request-making contributed to the literature on metapragmatic knowledge and awareness among L2 learners. Although some participants in this study clearly explained their knowledge of request-making, mentioning such factors as context, interpersonal relationship, politeness and justification, the metapragmatic knowledge score was quite low on average in this study. This shows that there is large individual variation in the learners and those who could demonstrate their metapragmatic knowledge clearly did gain better scores at post-tests. The findings indicate it is necessary to implement instructions to improve learners' metapragmatic awareness and knowledge in pragmatics teaching.

The findings in this study add to the existing literature on instructed pragmatics, but there is still much to explore in this area. Metapragmatic knowledge is indispensable in promoting pragmatic ability as is found in this study, therefore, explicit instructions can be implemented in game-based tasks. In addition, this study only examined the outcome of the delayed post-test 2 weeks after the instruction, however, the long-term effect on pragmatic competence should be taken into consideration in future research.
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