



Title of Project:

The Role of Socially-mediated Alignment in the Development of Second Language Grammar and Vocabulary: Comparing Face-to-face and Synchronous Mobile-mediated Communication

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Final Report

Motivation for the Research

Linguistic alignment is a psycholinguistic phenomenon that causes speakers to adjust their language to those of their conversation partners for successful communication. Second language acquisition (SLA) research has suggested that linguistic alignment occurring while second language (L2) learners carry out collaborative activities leads to L2 development, highlighting the benefits of using alignment activities (i.e., interactive activities designed to elicit alignment with target language patterns) for L2 learning (Trofimovich, 2016). Despite the notion that speakers linguistically align in conversational interaction happening in socially-situated contexts (i.e., socially-mediated linguistic alignment; Weatherholtz, Campbell-Kibler, & Jaeger, 2014), previous studies have focused mainly on cognitive factors, and little is known about the role of social factors in L2 speakers' alignment behaviors during peer interaction. Furthermore, although research has suggested that linguistic alignment occurs in both written and spoken interaction between native speakers (Cleland & Pickering, 2003), empirical research concerning the occurrence of alignment in L2 written discourse is still underrepresented. With rapid advances in mobile technology, recent research has focused on the efficacy of mobile devices as a language educational tool, suggesting that interaction through text-chat applications available on smartphones (i.e., synchronous mobile-mediated communication [SMMC]) plays a beneficial role in L2 learning (Bozdoğan, 2015). However, virtually no research has implemented alignment tasks online using text-chat applications on smartphones.

Research Questions

The present study aimed to examine the pedagogical benefits of alignment activities for the development of L2 vocabulary and grammar during peer interaction across two different interactional contexts: face-to-face (F2F) and SMMC (i.e., real-time communication between people made possible via mobile phones). This study further investigated the effects of social factors during learner-learner interaction on L2 learners' alignment behaviors and learning outcomes. Of various social factors, the focus is on speakers' perceptions of their peer interlocutors regarding their proficiency, comprehensibility of their language production, and the quality of task performance. This study was



guided by the following research questions (RQs): (1) Does linguistic alignment occur at lexical and structural levels while L2 peers carry out collaborative activities? If so, do learners' alignment behaviors differ in the two different modalities of interaction (F2F and SMMC)? (2) Do the collaborative alignment activities facilitate the learning of the target words and grammatical structure? If so, what is the role of the modality of interaction (F2F and SMMC) in the learning of the target words and grammatical structure? (3) To what extent does learners' perceptions of their interlocutors with regard to proficiency, comprehensibility, and task experience affect the degree of linguistic alignment and learning outcomes?

Research Methodology

This study followed a quasi-experimental design with 98 Korean college students. The participants were randomly assigned to one of the four groups: an F2F control, SMMC control, alignment activity in F2F, and alignment activity in SMMC. The target vocabulary items included 32 words unfamiliar to the participants, and the target structure was a stranded preposition construction embedded in an English relative clause (i.e., stranded preposition RC), such as *"A kettle is something you boil water in"*. Stranded preposition RC was chosen because it has proven challenging for L2 learners to acquire, irrespective of L1 backgrounds and proficiency levels (Conroy & Antón-Méndez, 2015). Furthermore, stranded prepositions have been found to be resistant to instruction (Sadighi, Parhizgar, & Saadat, 2004), and learners' use of null prepositions in stranded preposition RCs continues until later stages of L2 development. The experiment, which included the alignment activities and measurement tests, was carried out over a four-week period in a laboratory setting. A demographic survey, proficiency test, and pretests were administered to all participants during the first week. Two alignment activities and immediate posttests were completed in the second week. Each learner pair was offered two alignment sessions on two consecutive days, and the immediate posttests along with the interlocutor perception survey were administered right after the second alignment activity. Each learner performed the delayed posttests two weeks after the immediate posttests. The communicative activities for the experimental groups were alignment activities, which are designed to elicit the use of the target linguistic features during interaction. The F2F group orally carried out the activities, whereas the SMMC group performed them in a written mode via text-chat using a smartphone. Learners' development of the two target linguistic features were measured using receptive and productive tests including a word translation test, grammaticality judgment test (GJT), word production test, and sentence production test.

For data analysis, several logit mixed models were constructed to systematically answer the research questions. The first two logit mixed models were constructed to answer RQ 1, which concerned the linguistic alignment effects. The amount of structural and lexical alignment was measured separately to address RQ 1 and the first part of RQ 3, which concerned the linguistic alignment effects. Following previous research (e.g., Jung, Kim, & Murphy, 2017; McDonough, Neumann, & Trofimovich, 2015), successful alignment effects referred to learners' production of the target linguistic features after hearing the interlocutor's production of the identical grammatical structure (for structural alignment) or the same word (for lexical alignment). To address RQ 2 and the second part of RQ 3 concerning the learning effects of alignment activities, four logit mixed models were fitted to the measurement data from sentence production test, GJT, word production test, and word translation test. For all these four mixed models, the dependent variable was subsequent learning effect of the alignment activities measured by learners' performance in the pretest, immediate posttest, and delayed posttest of the measurement tests.



Summary of Findings

The findings of the current dissertation suggest that lexical alignment as well as structural alignment occurred in L2 peer interaction, irrespective of the modalities of interaction (F2F and SMMC), in which alignment activities were carried out. Learners in the SMMC context demonstrated a greater degree of structural alignment, when compared to the F2F participants, even though there was no significant difference between the SMMC and FTF modes with respect to the degree of lexical alignment. None of the social factors had a significant effect on the extent to which participants aligned with their peer interlocutor in terms of their production of target words and the stranded preposition RC structure during the alignment activity sessions.

With regard to learning effects, the findings indicate that productive and receptive knowledge of the stranded preposition RC and target words were promoted as a result of completing alignment activities in either of the two modalities. Specifically, the experimental participants outperformed the control participants on the immediate posttest of the four measurement tests (i.e., sentence production test, GJT, word production test, and word translation test). Furthermore, for the word production and word translation tests, the experimental participants had significantly higher scores on the delayed posttest, as well as on the immediate posttest when compared to the control participants. On the other hand, performances of the experimental and control participants did not significantly differ in the GJT on either of the immediate or delayed posttest. Further investigations of the significant main effect for time on the GJT scores indicated that there was significant improvement between the pretest and immediate posttest for the SMMC experimental group. Additionally, the FTF control group had significantly higher scores on the delayed posttest than on the immediate posttest. Finally, although none of the social factors was found to have a significant impact on the degree of linguistic alignment or the learning outcomes from the alignment activities, the current study offers directions for future research by suggesting other social factors that may impact the way in which L2 peers linguistically align with each other and the development of L2 grammar and vocabulary.

Implications

This study sought ways to apply the alignment (priming) paradigm to L2 pedagogical concerns. In particular, the current study focused on learner-learner interaction (i.e., peer interaction) during the alignment activities. SLA researchers have suggested peer interaction as an essential principle for optimal L2 practice because collaboration creates opportunities to promote L2 learning (Ortega, 2007; Philp, Adams, & Iwashita, 2013). Findings of this study confirmed the facilitative role of peer interaction in L2 development when two L2 peers carried out an alignment activity. Specifically, results of this study demonstrated that L2 learners had a tendency to align with their peer interlocutors in terms of their choice of words and grammatical structure during the alignment activities. Such strong tendencies have been repeatedly reported in L2 alignment research which examined the occurrence of linguistic alignment between a researcher and a learner. Moreover, this study showed that structural and lexical alignment occurring between L2 peers led to the learning of L2 grammar and vocabulary, respectively, irrespective of the modality (F2F vs. SMMC). However, as for the improvement in the GJT scores, results showed that only the SMMC participants benefitted from the alignment activities, indicating that the written nature of SMMC may have helped facilitate the development of receptive grammatical knowledge. While carrying out communicative activities in the written mode, learners can take more time to process and analyze primes and employ their explicit knowledge of the target structure (Ziegler, 2016). This may have led to the greater amount of structural alignment in the SMMC context, which in turn promoted the acquisition of receptive grammatical knowledge. Overall, the current findings suggest



that the alignment activity can serve as a tool for learning and teaching L2 grammar and vocabulary when used by L2 peers.

An additional contribution of this study to the existing body of SLA research is the finding that mobile devices like smartphones can be used to implement alignment activities using text-chat applications available on smartphones. The current study demonstrated that structural and lexical alignment occurred in both text-based and spoken interactions and the alignment effects facilitated the learning of L2 grammar and vocabulary, respectively. This finding lends support to the view that task-based practice in the written modality supports L2 development (Michel, 2018), indicating that benefits of SCMC can be extended to SMMC due to their shared characteristics for text-based interaction. The shared characteristics include increased salience for both input and output processing, decreased (time) pressure, message exchanges remaining visible, and possibilities for sheltered practice, which can facilitate noticing and form-focused behavior. Furthermore, findings of this study corroborate those of previous research that mobile-assisted language learning (MALL) allows L2 learning to take place outside the regular curriculum, and serves to engage L2 learners, and improves learning outcomes (Chwo, Marek, & Wu, 2018). Because smartphones are most widely used as teaching and learning tools from among different personal electronic devices in diverse educational contexts, researchers have sought ways to integrate smartphones into L2 instructions (Chee, Yahaya, Ibrahim, & Hasan, 2017). The current study showed that communicative activities can successfully be implemented using smartphones and L2 learners can benefit from such activities for developing L2 grammar and vocabulary. With the helpful functions of smartphone, such as easy access to language resources without time and spatial constraints and availability of mobile messaging apps for real-time communication, SMMC can provide an even more helpful environment for communicative language practice.



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