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Enhancing ICT-based International Interactions: Impact of Zoom and Padlet on Willingness to Communicate, International Posture, and Speaking Proficiency



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Abstract

This study explores the affective aspects — willingness to communicate (WTC) and International Posture (IP) — and speaking skills after using technological tools. Online synchronous meeting tool, Zoom, and the asynchronous tool, Padlet, were used as online learning platforms. Data were collected using an 8-item questionnaire on the WTC and a 20-item questionnaire on the IP. They were pre-existing questionnaires developed for the Japanese context and were administered to 34 college students before and after their lessons. Participants' speaking ability was tested twice (pre- and post-tests). Open-ended responses and participant reflections were also analyzed to gain further insights. Results showed significant effects on enhancing WTC, IP and speaking skills of participants with regard to ICT-based International Interactions. In addition, positive communication experiences with cross-cultural partners using Zoom and Padlet led to higher affective aspects and learning motivation. The findings suggest the viability of Padlet and Zoom as a tool for all proficient learners because of their relative ease of use and data management features. The implication of this study is relevant to a pedagogical tool in online exchanges for the current generation of students.

Keywords: Telecollaboration, distance education and online learning, improving classroom teaching, media in education

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Introduction

Status-Quo

Several language learners have been studying language in computer-assisted language learning (CALL) environments for over a decade (Macaro et al., 2012). CALL helps develop student motivation, autonomy, and self-efficacy (Honarзад & Rassaei, 2019). In English language education, technology can provide numerous ways to effectively assist learners by catering to their particular needs (Rafiq & Hashim, 2018). Indeed, computer learning networks have the potential to give learners confidence (Warschauer et al., 1996). Additionally, new forms of learning, such as computer-mediated communication (CMC), synchronous CMC (SCMC), and asynchronous CMC (ACMC), are becoming increasingly popular in English language education. One of the major advantages of modern CMC is that most teachers and students are already comfortable with the medium (Hubbard, 2021). Computer-assisted conversational activities, such as video calls, have become considerably prevalent, especially in foreign language classrooms (Chun et al., 2016). From a methodological perspective, foreign language classrooms that use video calls can be considered unique research settings to conduct longitudinal analyses of second language (L2) dialogue. By introducing video-based conversational activities to foreign learners who rarely interact outside the classroom, researchers can experimentally control and track the quantity and quality of L2 conversation experiences (Saito et al., 2021). Through paired video calls, Konishi (2017) demonstrated how motivation to speak improved after a single experience. According to Godwin-Jones (2020), the widespread use of distance learning is likely to become the new norm, not an anomaly. Online L2 learning and teaching in the Korean English as a foreign language (EFL) context have resulted in the creation of engaging and effective online learning experiences using multimedia resources, collaboration, and authentic materials (Lee, 2019). In the post-COVID-19 era, computer-mediated online learning environments in higher education are more prevalent than ever (Kohnke & Moorhouse, 2022). In an online language learning context, Ji et al. (2022) found that engagement was a significant predictor of Korean-L1 EFL university students' satisfaction. Additionally, some students found breakout sessions, where learners could interact with different classmates, meaningful. Computer-supported collaborative learning provides opportunities to enhance the EFL environment (Abe, 2013). It is based on constructivist principles, emphasizing Vygotsky's (1978) theory of collaboration and interaction. This approach suggests that cognitive development occurs through collaborative discourse and interaction (Chapelle, 1998), especially when meaning is negotiated and constructed authentically (Warschauer & Kern, 2000). Toyama et al. (2017) found that even a few short online group learning sessions can improve the English-speaking abilities of students with low proficiency and reduce their language anxiety.

However, while some students viewed online interactions positively, others viewed it negatively, for such reasons as dissatisfaction with the lack of immediate feedback from peers and instructors and the lack of opportunities to engage in face-to-face interactions and cultural exchange (Thompson & Ku, 2005). The solution to the lack of immediate feedback and tips for actively engaging in online interactions have not been investigated. The present study, therefore, attempted to both qualitatively and quantitatively analyze the affective aspects and speaking skills after using the technological tools of Japanese EFL university students, with a particular focus on the two kinds of CMC (Padlet and Zoom).

Literature Review

CMC

While video calls can be used to connect classrooms in different regions in real time, time zone incompatibility limits the participation potential of interlocutors based on their availability during

school hours, making it challenging to leverage ICT's abilities to transcend time and space. However, ACMC offers a solution. Given that ACMC can be conducted regardless of time differences, it removes the limitations of time zones imposed upon potential cross-national partners. Moreover, ACMC systems also overcome location limitations; they can be used inside and outside the classroom, eliminating the need to interact during class time and increasing the number of learning opportunities.

Researchers largely agree on the benefits of using ACMC to facilitate higher levels of learning in online courses (LaPointe & Gunawardena, 2004). Using this learning environment is also socially beneficial to participants as they can receive emotional support and motivation by communicating with colleagues who face similar issues or challenges (Mason & Weller, 2000). According to Choi (2016), peer learning was instrumental in helping asynchronous online learning be more effective. Text-based ACMC, which has been the focus of much prior research, is different from real-time SCMC in that it offers more freedom of time and location (Lee & Markey, 2014), greater opportunities to exchange ideas, and enable balanced participation, the ability hear members' views, and more comfortable environment (Chew & Ng, 2016). This format benefits learners who are shy, introverted, or do not like to speak in front of other learners, as it gives them an equal opportunity to voice opinions to their counterparts without speaking aloud. Additionally, it is preferred by less-proficient learners (Chew & Ng, 2021). Communicating using ACMC content can give learners opportunities to gain a deeper understanding of the ideas being conveyed because they can repeatedly read asynchronous content until they understand it (Al-Mutairy & Shukri, 2017). Accordingly, this format enables students to understand each other's opinions and take sufficient time to reply (Sasaki, 2015). This encourages learners to reflect upon and create their messages (Castañeda, 2021); that is, learners can carefully consider and rewrite the content of their transmissions as needed. Thus, ACMC strategies can enable individualized learning by giving learners the time they need to consider their communications. However, concerns have been raised about the value and feasibility of remote language learning, with the main concern being limited interaction in online environments (Nielson et al., 2009).

ICT Succession Model

Additionally, following the ICT succession model (Stephens, 2007), which recommends using two different communication media, using SCMC and ACMC in succession may improve students' affective aspects and speaking skills. Including text-based ACMC pre-task planning before SCMC tasks can reduce cognitive burden on L2 learners' oral performance, thereby contributing to a higher level of production, compared to assigning only SCMC tasks (Payne, 2004). The cross-modality transfer of language skills from writing to speaking is induced by sequencing from ACMC to SCMC. This encourages students to subvocalize the written texts they produce in their minds, which positively impacts their oral performance (Blake, 2009). Yamagata-Lynch (2014) conducted a study exploring how SCMC can complement ACMC and found that SCMC that are supported by well-structured small group meetings can help students feel a stronger sense of connection to their peers than students who only experience ACMC.

Although extensive research has been conducted to demonstrate such benefits, whether the combination of using both ACMC and SCMC leads to effective and meaningful learning in the EFL context remains ambiguous. To the best of the author's knowledge, few studies have examined the ICT-based International Interactions using the combination of both ACMC and SCMC with lower-level language learners in the Japanese EFL context. To address this gap in research, this study investigated ICT-based SCMC and ACMC practices by examining how they impact the affective aspects—willingness to communicate (WTC) and International Posture (IP)—and speaking (interaction) skills of students. In other words, there is a possibility to increase engagement and interaction by multiplying the advantages of ACMC and SCMC. Regarding SCMC, this study focuses on video calls between Japanese and

Korean classrooms. As for ACMC, it focuses on an online virtual bulletin board between Japanese and Korean classrooms. This study is unique in that it specifically examines reflection by investigating affective transformation and speaking ability in paired interactions, which is not found in previous studies.

WTC and IP

WTC is an important component of daily learning that promotes concrete language activities, positively influencing language acquisition (MacIntyre et al., 1998). Peng and Woodrow's (2010) study on Chinese university students showed that confidence in English communication and classroom environmental factors, such as teacher support, student cohesion, and task orientation, directly affect English WTC. Moreover, communication anxiety, confidence in communicating in the target language, recognition of communication ability, and IP also impact WTC; these factors are closely linked to motivation for learning and actual communication (Yashima, 2002; Yashima et al., 2004). Another factor impacting WTC is IP, which is a concept introduced by Yashima (2002) that encapsulates attitudes toward international communities. It includes the readiness to approach and communicate with intercultural partners, interest in international affairs, and willingness to live and work abroad, which are believed to relate to L2 learning motivation. In the context of the present study, IP encompasses an interest in international work, attitudes toward engaging with the world outside Japan, and attitudes toward different cultures and foreigners (Yashima, 2019). Yashima (2002) proposed that IP directly affects WTC in English among Japanese learners.

Several studies have examined the relationship between technology integration for foreign language instruction and motivational factors such as WTC and IP. For example, participants in communication technology programs have reported positive experiences that enhance their L2 motivation (Helm, 2015). Similarly, Mueller and Walzem (2020) conducted a study on WTC through online chatting in Japan and Taiwan and reported that online chatting not only helped participants improve their English but also promoted an interest in culture and knowledge. Furthermore, the study showed a consistent association between WTC components and participants' perception that the chats helped them improve their English and their knowledge and interest in their chat partner's culture. This study suggests that WTC may serve as a valuable construct for predicting learners' perceptions of telecollaboration (also known as International virtual exchange) as a language learning platform. Tsubota et al. (2023) explored the effectiveness of a newly designed pre-telecollaboration training course and revealed that students' speaking skills in English improved, their foreign language anxiety was alleviated, and their WTC improved. Mahshid Rezaeyan and Ana Ma Gimeno-Sanz (2023) examined the role of the teacher as a pedagogical mentor in telecollaborative exchanges and provided empirical evidence for the effectiveness of their strategies and techniques in promoting L2 learners' pragmatic competence with WTC. This study compared two groups of EFL learners: teacher-mentored collaborative pre-task planning and student-led collaborative pre-task planning. The results indicated that the experimental group significantly outperformed the control group in the discourse comprehension test and increased their WTC at the post-intervention stage.

In Japan in particular, it has been observed that there has been a "shift in EFL education from an integrative motivational orientation for English learning to an International Posture regarding English as a part of learners' global outlook" (Ockert, 2015, p. 206). Telecollaborative projects have had a positive effect on motivation, WTC, and IP (Ockert, 2015). Balouchi & Samad (2021) investigated the mediating effects of second language motivation, WTC, and IP on the relationship between self-perceived communication competence of second language speakers and the frequency of their communication in online informal English learning contexts. The results revealed that a higher level of perceived competence leads to more frequent second language use in online contexts. Furthermore, the

mediating roles of second language WTC and IP were found to be statistically significant. Therefore, if there are opportunities for students to interact in English with foreigners in relatively small groups through exchanges with foreign classrooms, it can improve their WTC, thereby leading to successful experiences and encouraging IP.

Present Study

Study Aims

This empirical study aims to show whether working with foreign classrooms to communicate with foreigners helps improve WTC and IP, and effectively improves speaking skills. It also explores how the participants feel and what they noticed during such interactions. Appropriate assistance from teachers is crucial for helping English language learners negotiate meaning with minimal anxiety during English interactions. The concept of scaffolding (Wood et al., 1976) is considered important in interactive activities. Scaffolding refers to the support a teacher provides to a learner, or the support learners offer each other, such as feedback, which takes place during interactions (Lantolf, 2000). The teacher should be one step ahead in the problem-solving process, allowing learners to work on tasks suitable for their current ability levels and guiding them to the next step (Vygotsky, 1978). In this study, online learning platforms, specifically Zoom for synchronous meetings and Padlet for asynchronous interactions, were used to facilitate successful scaffolding. Padlet can be classified as SCMC and ACMC because it allows posting and interaction in real-time (Mahoney & Hall, 2020). However, in this study, the use of Padlet was used at a time of each student's choice outside class time before the implementation of Zoom. Therefore, we classified it as ACMC because the interaction was not conducted simultaneously. Padlet is a free application that allows users to create an online bulletin board where they can write and display information on any topic, view posts in real time, and comment on each other's posts, as long as they have an Internet connection. It is an appropriate and powerful visual knowledge-building tool (Zhi & Su, 2015), and when used in conjunction with Google Docs and Slides, Padlet connects the use of technology with the course content and helps participants learn better (Kimura, 2018). It also can be a useful tool as a portfolio. A portfolio can contain any piece of work produced as part of a telecollaborative activity, including postings and replies (Wicking et al., 2021). A portfolio allows students to reflect on their online interaction (Wicking et al., 2021) and achievement (Howrey & Tanner, 2009). In this empirical study, virtual interactions using Zoom with overseas classrooms are defined as ICT-based International Interactions, 1) asynchronous type using Padlet, and 2) synchronous type using video calls to interact in real-time. The following research questions were framed before the research. Two research questions (RQs) were posed.

Research Questions

RQ1. Do ICT-based International Interactions enhance speaking skills and affective aspects for lower-level language learners?

RQ2. If so, what are the causes of these changes?

Method

Participants

The participants in this empirical study were 34 first-year college students in elementary education programs at national universities in Japan. Notably, several participants had a poor command of English. The participants were student teachers who would become future English teachers at

elementary schools. They were enrolled in a “General English class” designed to improve their English skills. A profile building pre-questionnaire was administered to 34 first-year college Japanese students on the first day of class to help inform future classes. It assessed the students’ English proficiency. It also asked what they thought of the English classes so far, and whether or not they had any English language qualifications. The answers revealed that all the students who considered studying English difficult were taking the classes only to earn credits for graduation. Furthermore, confidence and motivation caused them to avoid public English tests, such as the TOEIC, TOEFL, and IELTS, unless they were required to take them in high school. Nine participants passed the Practical English Proficiency Test (hereafter referred to as “Eiken”) Level Pre-2 (Equivalent to CEFR A2) and 25 passed Level 3 (Equivalent to CEFR A1). Based on these results, the 34 first-year college students in this study were defined as lower-level language learners and the data of 34 first-year college Japanese students was included in the analysis. The exchange partners were 18 sixth-grade Korean elementary school students and a teacher. The content and purpose of the survey were explained to the students before the practice, and care was taken to ensure their anonymity. Written informed consent was obtained from the participants regarding the use of data in compliance with confidentiality obligations for this practice. ICT-based International Interactions were conducted among nine groups using Zoom’s Breakout Room feature. Due to the nature of the practice, it was not possible to keep the number of students in all groups homogeneous. However, seven groups of six students (four Japanese university students and two Korean elementary school students) and two groups of five students (three Japanese university students and two Korean elementary school students) participated in ICT-based International Interactions. The ICT-based International Interactions were part of the university’s English classes and were conducted three times in December 2022. These were conducted with the same group on all three occasions. Participants attended one classroom session per week. During the first 45 minutes of the 90-minute class, the group had a meeting to prepare for ICT-based International Interactions, and during the second 45 minutes, they performed ICT-based International Interactions. Some studies have shown that repetition (Yalçın & İnceçay, 2014) and planning are important (Kawashima, 2019). Yalçın and İnceçay (2014) demonstrated that increased familiarity with activities and frequent task accomplishments lead to increased comfort with speaking. Kawashima (2019) suggested that providing two minutes of preparation time before a presentation may reduce speaking anxiety.

Considering that the participants in this study were lower-level language learners, communicating in English without any assistance would have been difficult for them. Therefore, based on the aforementioned studies, repeated interactions with the same group members using Padlet as a scaffold and providing preparation time for practice before the interaction were expected to facilitate ICT-based international interactions even among lower-level language learners.

Procedure

The topics to be discussed were decided in advance by consulting faculty members using Zoom. During the online exchange, the first topic dealt with self-introductions, where each person introduced him/herself to the group. Subsequently, they asked each other questions and engaged in an impromptu exchange. Before the Zoom interaction, each group was instructed to prepare in advance what they would talk about that day on their assigned Padlet. Thus, they shared the screen during the Zoom interaction and had a group discussion.

In the second session, the same groups as in the first session introduced the cultural content they prepared to introduce. After introducing their own culture, each group decided on one common theme and deepened the discussion in preparation for the third presentation. For example, food, world heritage, animation, music, clothing, and sports were mentioned as subjects.

In the third session, the students first rehearsed in the breakout room and returned to the main room to present to the whole group under simultaneous instructional conditions. Based on the first two sessions, each group decided on a common topic, after which all groups prepared PowerPoint presentations, which were presented to the whole group while sharing the screen. For example, for the group that chose food culture as its theme, the Japanese participants gave a PowerPoint presentation on Japanese food, and the Korean participants on Korean food culture. Other themes presented included idols, anime, and tourist attractions.

The actual procedure was as follows: First, after the participants entered the Zoom room, they were greeted briefly, and attendance was confirmed. Then, the theme and flow of the session were explained. Subsequently, each participant was assigned to a breakout room where they could work in groups. The author observed the participants' interactions with one another as they walked through the classroom, without interrupting the conversation. Continued observation was maintained even when participants were nervous or silent in the middle of the conversation. Only technical problems such as audio or visual issues were addressed. Each group was gathered and seated, wearing headphones, and communicated via Zoom while presenting the Padlet screen.

Analysis Method

Measuring Speaking Ability

The participants' speaking ability was tested twice (pre- and post-tests) using a one-on-one role-playing test between the author and the participant. This speaking test was based on the "Speaking (Exchange and Role-play with Teachers) Culture and Examples 1" published by the Speaking Evaluation Executive Committee (2023) on the Speaking Evaluation Portal website. The speaking test was conducted in a role-play setting wherein the researcher acted as a Korean exchange student, and the participants were Japanese students attending a party with exchange students. The test was conducted with a time limit of two minutes, and a mission card with the following three conditions to be achieved was presented on the spot: Condition 1: The student talks about Japanese culture in detail according to the setting of the card; Condition 2: The student asks the foreign student questions about the culture of their country; and Condition 3: The student expresses impressions and offers comments on their partner's remarks. The speaking test was conducted in a separate room. During the test, we timed and recorded it with a voice recorder, and the scoring was done while listening to the recorded voice. Measurement items were gauged from the following three perspectives: 1) holistic evaluation (Table 1), in which fluency was measured in terms of fillers, pauses, repetition (including correction), and speech velocity on a 5-point scale; 2) evaluation in terms of the number of words spoken (Iino & Yabuta, 2016); and 3) evaluation in terms of content. The criteria were knowledge and skills, abilities to think, make a judgment and express themselves, and attitude toward independent work. Each of the three perspectives was evaluated on a three-point scale: a (5 points), b (3 points), and c (1 point). The scoring criteria were modified for the participant based on the Speaking Evaluation Executive Committee (2023), using the rubric's criteria for three perspectives: appropriate use of vocabulary and expressions, speaking and communicating relevant information and ideas in detail after fulfilling the three conditions, and tried to speak and communicate relevant information and ideas in detail after fulfilling the three conditions (Table 2).

Emotional Measurement

Two types of questionnaires were administered to examine the affective aspects of online interaction. First, the WTC questionnaire consisted of eight items (Yashima, 2009) that enquired about the degree of WTC in various English-speaking situations, with responses rated on a six-point scale ranging

Table 1 Fluency Criteria in the Holistic Evaluation (IINO & YABUTA, 2016)

5	Speaks at an appropriate speed with few unnatural fillers, pauses, or corrections
4	Occasional unnatural fillers, pauses, and corrections, but speaks at an appropriate speed
3	Lots of unnatural fillers, pauses, and corrections, and speaks slowly
2	Many unnatural fillers, pauses, and corrections, and speaks very slowly
1	Only unnatural fillers, pauses, and corrections, and no coherent speech

Table 2 Evaluation in Terms of Content (SPEAKING ASSESSMENT ORGANIZING COMMITTEE, 2023)

Grading criteria	Knowledge and skills	Abilities to think, make judgement and express themselves	Attitude toward independent work
A	<ul style="list-style-type: none"> Vocabulary and expressions were used appropriately Communicating by speaking that was easy for listeners to understand. 	<ul style="list-style-type: none"> They spoke and communicated relevant information and their own ideas in detail after fulfilling the three conditions. 	<ul style="list-style-type: none"> They tried to speak and communicate relevant information and their own ideas in detail after fulfilling the three conditions.
B	<ul style="list-style-type: none"> Although there were a large number of errors, they spoke and communicated using vocabulary and expressions that did not interfere with comprehension. 	<ul style="list-style-type: none"> They talked and communicated with one another under three conditions. 	<ul style="list-style-type: none"> They were trying to talk and communicate with one another under three conditions.
C	<ul style="list-style-type: none"> The condition in b was not met. 	<ul style="list-style-type: none"> The condition in b was not met. 	<ul style="list-style-type: none"> The condition in b was not met.

from “Never talk” 1 to “Always talk” 6. Second, for the IP questionnaire, following Yashima (2002), respondents were asked to answer 20 items regarding their attitudes toward people of other cultures and the international community on a six-point scale, ranging from “I strongly disagree” 1 to “I strongly agree” 6. The pre-existing questionnaires were developed for the Japanese context. The scores for each question item were tabulated, the mean was calculated, and a *t*-test (two-tailed) was conducted to see if there were any differences in the changes in affective aspects (WTC, IP) between the pre-and post-questionnaires.

Impressions on the Exchange with Children from Overseas

In addition to the two psychometric questionnaires, the following questions about online interactions were asked in the post-survey to investigate the causes of the changes in speaking ability: 1) I believe that learning English through Padlet and Zoom with Korean elementary school students is effective in improving my English proficiency; and 2) I gained new insights about my English proficiency after learning English through Padlet and Zoom with Korean elementary school students. These two questions were measured on a six-point scale, ranging from “I strongly disagree” 1 to “I strongly agree” 6. The average of each result was analyzed. To supplement these results and verify what helped

improve speaking ability, the author also analyzed the content of the open-ended responses regarding the reasons for the improvement.

Furthermore, to investigate the causes for the change in speaking skills and affective aspects (WTC, IP), participants were asked to write their impressions after the online exchange through open-ended responses, describing how they felt and what they noticed through the online exchange with the Korean children.

Results

Speaking Ability

For the speaking test, participants' speaking ability was examined in terms of fluency, number of words spoken, and content. The results are presented in Table 3 and Figures 1 to 3. First, a *t*-test (two-tailed) was conducted to see if the difference between the mean scores before and after instruction in terms of fluency was statistically significant, $t(33) = -3.25, p < .01, r = .59$, indicating that the difference in mean scores before and after instruction was significant at the 1% level. The effect size was also significant. The effect size *r* was defined as $r = .10$ (small effect size), $r = .30$ (medium effect size), and $r = .49$ (large effect size), referring to Cohen's (1988) criteria. For the number of words spoken, $t(33) = -10.74, p < .01, r = .88$, indicating that the difference in mean scores before and after instruction was significant at the 1% level. The effect size was also significant. For content, $t(33) = -10.21, p < .01, r = .87$, indicating that the difference in mean scores before and after instruction was significant at the 1% level. The effect size was also significant. The results indicate that online interaction using Padlet and Zoom is useful for improving participants' speaking skills.

To verify whether the participants themselves felt that this ICT-based international interactions helped them improve their English proficiency and gain new insights, the author also analyzed the participants' post-survey. The results in Figure 4 show that 32 of the 34 participants felt that the online exchange with Korea using Padlet and Zoom helped them improve their own English skills. This complements the results of the speaking test, which showed that speaking skills had improved after the online exchange, indicating that the participants themselves perceived their English skills as having improved.

Figure 5 shows that 31 out of 34 participants felt that they had new insights about their English proficiency after the online exchange with Korea using Padlet and Zoom. This indicated that the experience in the online exchange helped participants to become aware of their own English language skills.

Table 3 Descriptive Statistics for Speaking Tests ($N = 34$)

		M	SD	Skewness	Kurtosis	Min	Max
Fluency	Pre	2.26	0.93	0.35	-0.79	1	4
	Post	2.76	0.70	0.33	-1.01	2	4
Number of words spoken	Pre	27.40	13.34	0.68	0.39	4	66
	Post	52.30	15.87	0.70	0.16	25	96
Content	Pre	4.71	1.92	1.09	0.29	3	9
	Post	10.65	3.60	-0.32	-0.76	3	15

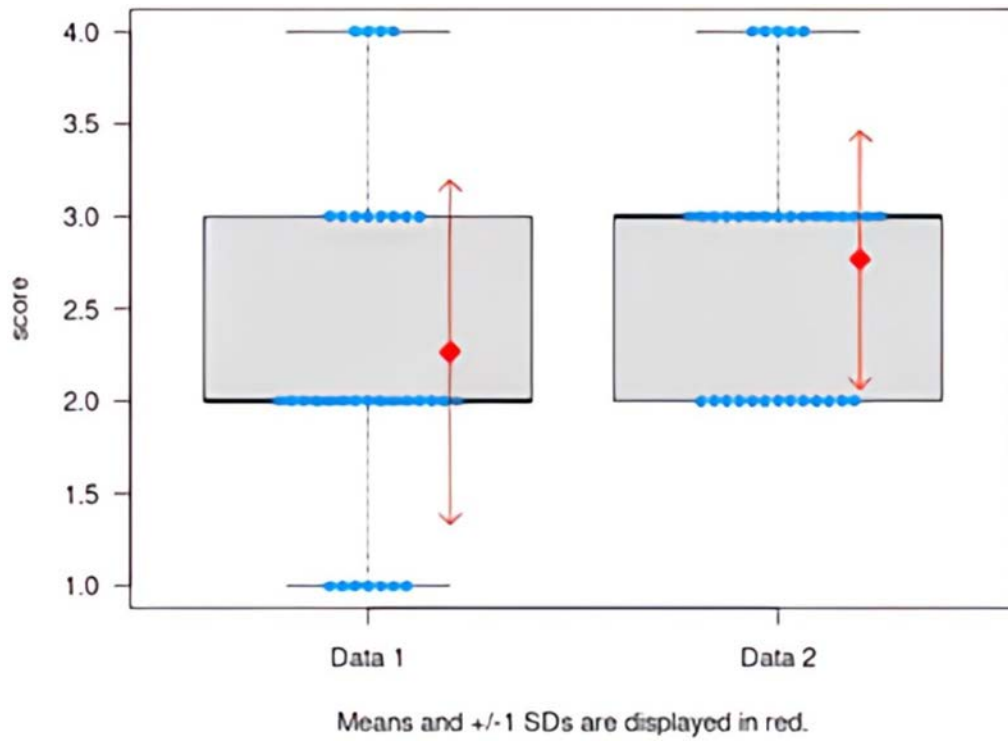


Figure 1 *Fluency.*

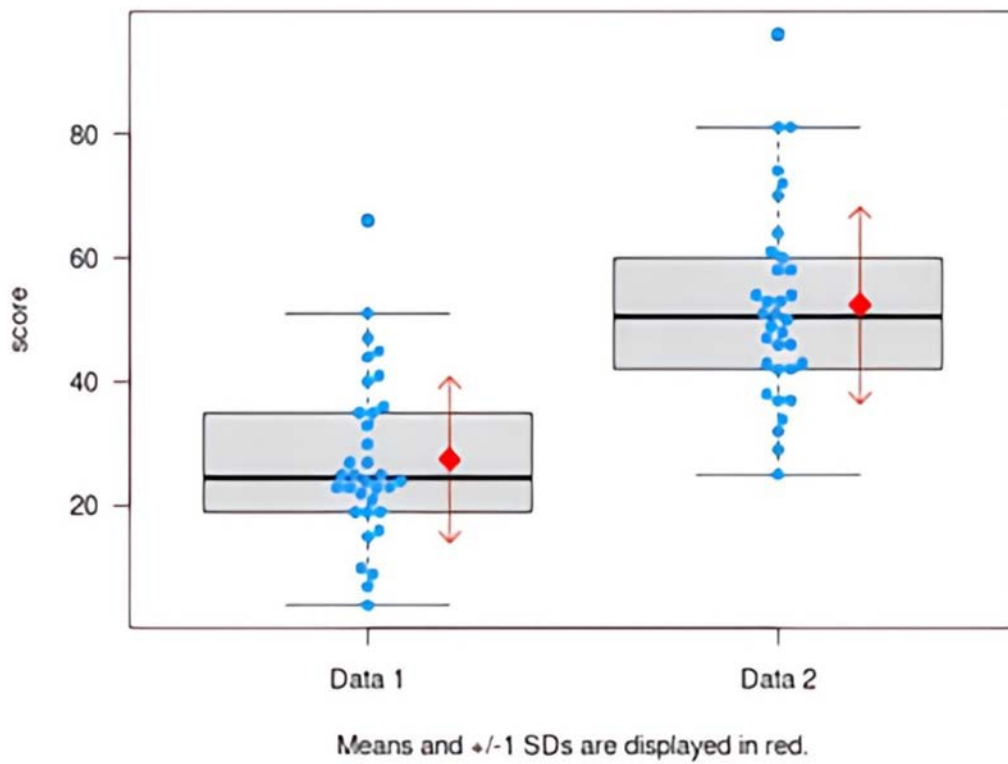


Figure 2 *Number of words spoken.*

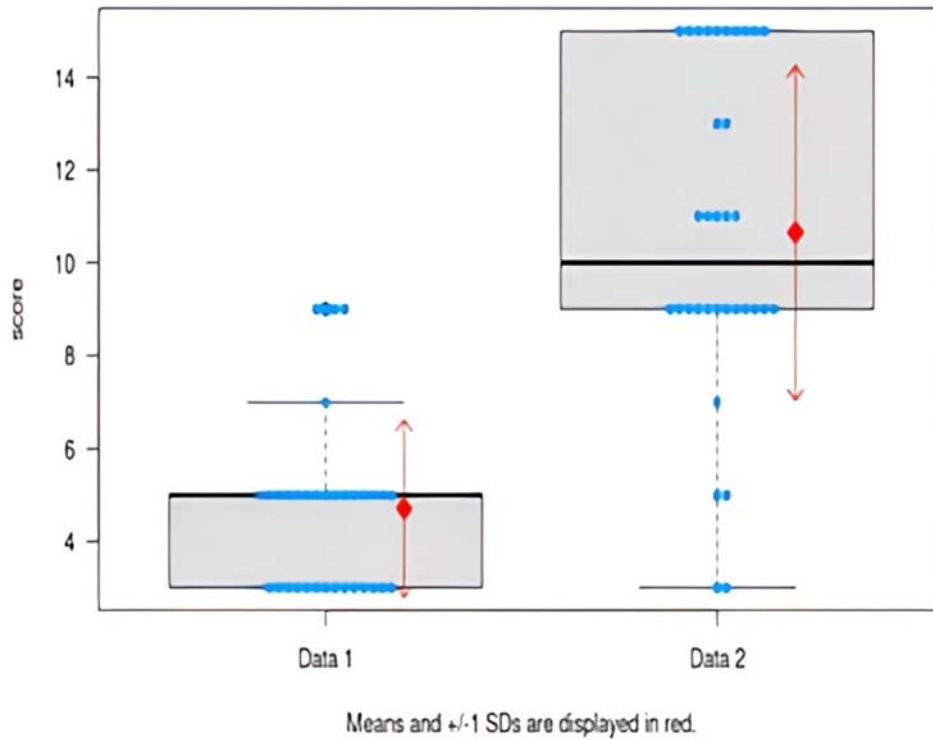


Figure 3 Content.

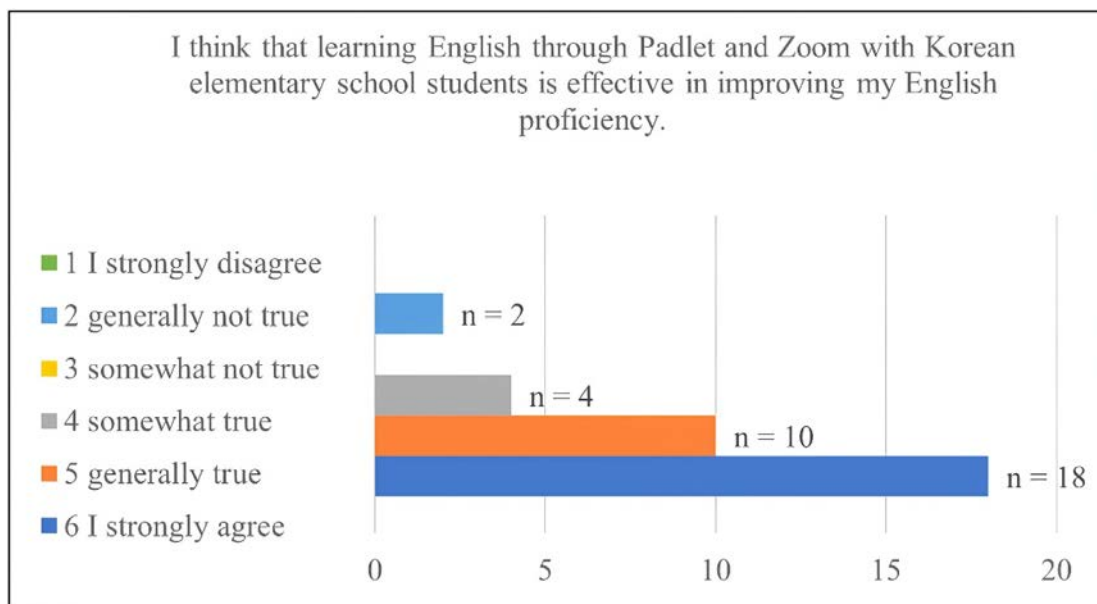


Figure 4 Results of Questionnaire on Improvement of English Proficiency.

The Affective Aspects

The affective aspects were examined from two perspectives, WTC and IP. The results are shown in Table 4 and Figures 6 and 7. A *t*-test (two-tailed) was conducted on the 8-item questionnaire for the WTC to confirm whether the difference between the mean scores before and after the instruction was statistically significant. The results, $t(33) = -3.21, p < .01, r = .59$, indicated that the difference

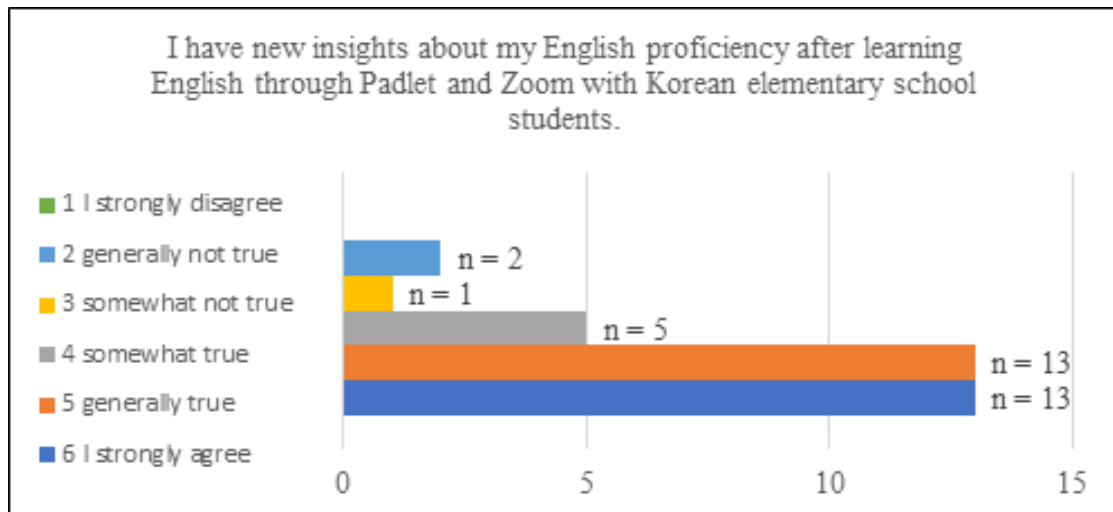


Figure 5 Results of the Questionnaire on Noticing.

Table 4 Descriptive Statistics for WTC and IP (N = 34)

		M	SD	Skewness	Kurtosis	Min	Max
WTC	Pre	3.82	0.62	-0.91	0.80	2.00	5.00
	Post	4.26	0.50	0.60	0.91	3.25	5.75
IP	Pre	3.25	0.53	-0.25	-0.70	2.00	4.20
	Post	3.82	0.63	0.59	-0.38	2.90	5.45

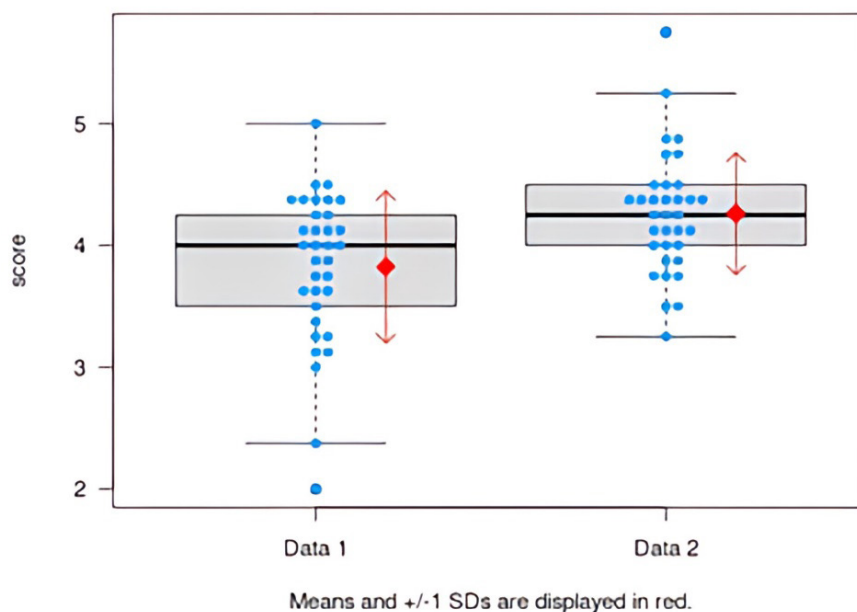


Figure 6 WTC.

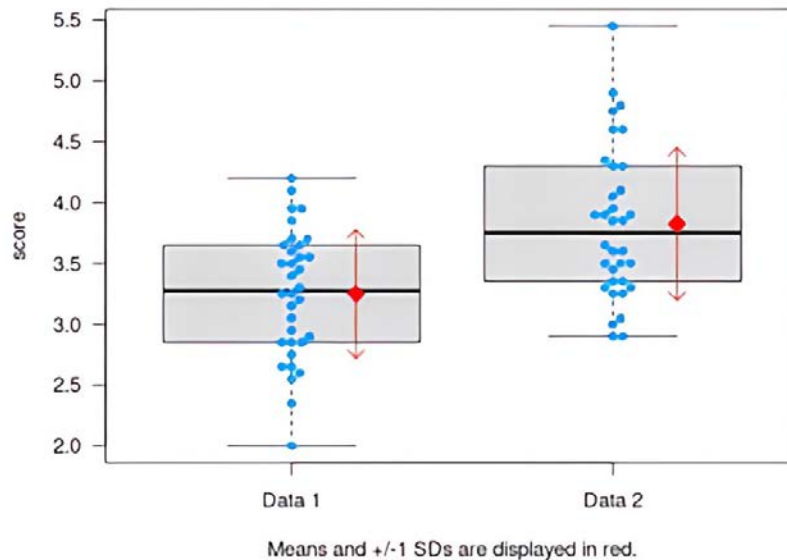


Figure 7 IP.

between the mean scores before and after the instruction was significant at the 1% level. The effect size was also large. The reliability coefficient for the pre- and post-questionnaire on the WTC was $\alpha = .78$ and $\alpha = .68$ respectively. The results indicate that online interactions utilizing Padlet and Zoom improve participants' WTC.

For 20-item IP questionnaire, a *t*-test (two-tailed) was conducted to confirm whether the difference between the mean scores before and after the instruction was statistically significant. The results, $t(33) = -4.08$, $p < .01$, $r = .58$, indicated that the difference between the mean scores before and after instruction was significant at the 1% level. The effect size was also significant. The reliability coefficient for the pre- and post-questionnaire on IP was $\alpha = .83$ and $\alpha = .87$, respectively. The results indicate that online interactions utilizing Padlet and Zoom improve participants' IP.

Discussion

Speaking Ability

The significant difference in the results of the speaking test conducted before and after the ICT-based International Interactions and the large amount of effect shown indicate that practicing speaking with children from other countries through ICT-based International Interactions was effective in improving the speaking ability of the learners. To supplement these results and verify what helped improve speaking skills, the author reviewed participants' post-survey and excerpt examples of original open-ended responses that represent their characteristics, with individual identification numbers, to explore specific rationales and reasons. The following impressions are translated from Japanese into English by the author: "I think they [online interactions using Padlet and Zoom] are effective in improving my English ability because with Japanese classmates, I can rely on my Japanese. But with Korean elementary school students, I am in an environment where I can only speak in English. I no longer feel spoiled relying on my Japanese, and I feel like I want to practice speaking English as hard as I can and speak it well" (D). "Because the situation was created, I had to explain things in English because the Korean kids could not understand my Japanese" (E). "I thought talking with Korean elementary school students would help me improve my English skills because English is the only way

to communicate with them” (F). From these statements, it can be said that the opportunity for pushed output, which is also effective in SLA’s output hypothesis (Swain, 1995), motivates participants to speak English. These inputs from peers encourage students to speak English, positively impacting their oral performance and overall communication ability. This result aligns with that of Blake (2009) and Fang et al. (2018).

The Affective Aspects

To supplement these results and verify what helped improve the WTC and IP, we reviewed the open-ended responses in the participants’ questionnaires and excerpt examples of the original statements that represent the characteristics of the participants, with their personal identification numbers, to explore specific rationales and reasons. “I used to think that it was difficult to speak with people from other countries in English unless I had perfect grammar and pronunciation. But now I know that I can speak even if I make a few mistakes as long as they can understand me. I wanted to speak more actively even if I make mistakes” (A). “I thought it would be difficult to speak in English, but I was surprised to see that I could manage to find a way to convey my thoughts on my own without relying on the translation function and that I was able to make an effort to speak. I will continue to try to speak up in group discussions on my own” (B). “I could actually communicate and speak in English, which gave me a little confidence. I feel like doing my best in the future. It was stimulating and fun” (C). These statements indicate that the experience of actually conversing and communicating with others in English improved students’ WTC. Before speaking, the students lacked confidence in their speaking ability. However, the experience of communicating with others in English gave them a sense of accomplishment, confidence, and enjoyment. These results suggest that providing opportunities to interact in English and connecting them to successful experiences of communication may improve WTC.

The following are excerpts from the open-ended responses on IP. “In the beginning, I was not comfortable with the idea of speaking English, but as the class progressed, I looked forward to each class. I wanted to go abroad before I entered university, but I had forgotten about it. This class strengthened my desire to go” (D). “I was very happy to be able to communicate with children from overseas for the first time. I would like to do such overseas exchange again. I was happy to be able to respond to comments on one shared screen, even in distant places, and exchange different cultures. Although I was aware of some aspects of foreign cultures from reading textbooks and researching the Internet, it was still very moving to hear real voices” (E). “It was interesting to learn about the similarities and differences between our cultures using Padlet and to deepen our understanding of each other” (F). “I thought that by using the new tool, Padlet, to share ideas with the whole class, we can learn about a broader perspective that is not limited to the domestic or group perspective. It was a great learning experience for me to know what it is like to be in elementary schools in Korea” (G). These descriptions make it clear that the experience of interacting with foreigners in different cultures stimulated their interest in foreign countries and led to the improvement of their IP. The results suggest that WTC and IP can be improved through the implementation of this program, considering the transformation in awareness of English. The positive experience of conversing and communicating with foreigners from different cultures can build confidence, which in turn improves participants’ WTC and IP, as suggested by motivation research (Helm, 2015; Peng & Woodrow, 2010; Yashima, 2002, 2019; Yashima et al., 2004).

Conclusion

In this study, the effects of online exchanges with overseas classrooms using a combination of APMC (Padlet) and SCMC (Zoom) were examined. The results revealed, first, that online interaction

using Padlet and Zoom helped improve participants' speaking skills. Second, factors that improved speaking skills included the pushed output opportunities that motivated participants to speak English, impromptu English exchanges, and repeated video calls, which was transformative for participants in determining their English skills to improve themselves and gain confidence. Third, ICT-based International Interactions utilizing Padlet and Zoom helped improve participants' WTC and IP. This could be because the audiovisual information on the Padlet is useful in starting conversations among participants and promoting comprehension. The experience of conversing in English and experiencing a sense of accomplishment from communicating in English with another person leads to confidence and enjoyment of the exchange. The experience of cross-cultural exchange with foreigners stimulated interest in foreign countries, which may have improved students' WTC and IP. These findings are consistent with previous studies indicating that the pre-task planning in computer-mediated communication can reduce cognitive burden on L2 learners' oral performance (Payne, 2004) and the ICT succession model (Stephens, 2007), which recommends using two different communication media. This suggests that using SCMC and ACMC in succession can improve students' affective aspects and speaking skills. In other words, the results imply that creating engaging and effective online learning experiences using multimedia resources, collaboration, and authentic materials (Lee, 2019) may lead to efforts to produce comprehensible output and develop language competence (Swain, 1995). This practice is significant because few studies have combined ACMC and SCMC and aimed to demonstrate speaking skills and psychological changes with lower-level language learners.

Future studies must include issues such as increasing the number of participants and conducting the survey for a longer period. Further, it is necessary to control the balance of the number of people in each group. In this study, only three sessions were conducted, once with a group of six students (four Japanese university students and two Korean elementary school students) and once with a group of five students (three Japanese university students and two Korean elementary school students). Thus, the effects of the number of sessions, such as the appropriate balance of numbers and how often they should be repeated, were not known. In the future, the author will attempt to explore some other aspects, such as controlling the number of participants and the ratio of men to women and increasing the number of times the program is held to verify its effectiveness. Another limitation of this study concerns the fact that it only examined 34 participants with diverse English levels. Therefore, caution is advised in generalizing the findings. Additionally, the English proficiency of the Korean elementary school students in the sample was unknown. Further research is necessary to determine whether the intervention can demonstrate similar efficacy in a more varied sample or explore the negative factors that influence students' effectiveness in using Zoom and Padlet for language learning. Additionally, an attempt will be made to analyze the participants' actual speech exchange and changes in the quantity and quality of speech during group video calls to investigate the effects on speaking ability and its utility for speaking instruction. Further, to confirm the usefulness of this approach, an aim is set to conduct similar cases with a diverse group of learners, including high school, junior high, and elementary school students. It is deemed necessary to accumulate more practice in the future.

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