Computer-Mediated Communication as a Preparation Tool for English Discussion Tests:

How Do Students Perceive Its Effectiveness?

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Abstract

This study explored English as a Foreign Language (EFL) students' perceptions of the usefulness of various computer-mediated communication (CMC) tools in practicing group discussions. Three classes of first-year students at a Japanese university participated in this study over four terms. As an assessment task of the course they enrolled in, students took a group discussion test each term. In the previous class, they engaged in a preparation activity in one of the three modes: (a) text chat, (b) video exchanges on Flipgrid, and (c) face to face or Zoom (FTF/Zoom). After the test, participants answered a seven-item questionnaire to report their evaluation of the preparation activity. In the final term, they ranked the three modes based on their usefulness, in addition to responding to the seven items. The students found FTF/Zoom to be the most useful for discussion test preparation, with an overwhelming majority ranking it first. The survey results consistently showed that students regarded this mode as the most effective in terms of language use, idea construction, and affective aspects. Students' comments indicated that the main advantage of FTF/Zoom was that it enabled them to practice in the same environment as the test, which was administered FTF or through Zoom. They reported that the time lags

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in the text chat and Flipgrid video exchanges did not help them practice interacting smoothly in real time. However, some students recognized the advantages of the time gaps, for example, allowing them to read or watch other students' messages many times and think of how they will respond.

During the COVID-19 pandemic, second-language (L2) teachers were forced to move their lessons from physical classrooms to cyberspace. Many strived to maintain their communicative teaching styles by using newly emerging videoconferencing platforms such as Zoom and Microsoft Teams. These platforms enabled them to interact with the class and have students interact with each other in groups, just as they do in real classrooms. In addition, teachers utilized existing tools for written communication, including text chats and online bulletin boards, to provide additional interaction opportunities. In the academic year 2022, most L2 classes returned to physical classrooms; however, not all teachers are happy to return to their pre-pandemic teaching styles. In preparation for another crisis and out of the desire for a more innovative pedagogy, many seek ways to apply the knowledge accumulated during the pandemic and integrate computer-mediated communication (CMC) into their courses.

In L2 courses aimed at the development of communication skills, the teacher's primary responsibility is to provide students with maximal opportunities to interact or collaborate in L2. Among the various types of CMC, synchronous video computer-mediated communication (SVCMC) is the most effective for this purpose. As Kessler et al. (2021) adeptly stated, "when SVCMC is implemented into an existing L2 curriculum, (for example, as a homework assignment), it can increase learners' opportunities for receiving input, producing output, and interacting in the L2, all of which are crucial for language development" (p. 2). However, in many teaching contexts, SVCMC platforms, such as Zoom or Microsoft Teams, are not ideal tools for homework assignments. To use them, students must coordinate their schedules, set meetings, and be in environments where they can participate smoothly. It is difficult for teachers to monitor student work and provide assistance. In comparison, tools for asynchronous (i.e., delayed-time) CMC (e.g., electronic bulletin boards, Flipgrid) or written CMC (e.g., electronic bulletin boards, text

chat) have greater potential as tools for outside-class activities because they are more accessible to students and manageable for teachers. To help L2 teachers incorporate CMC into their post-pandemic teaching, empirical research is needed to determine the best use of these CMC tools.

Student Views on Blended Language Learning

Over the past few decades, numerous L2 studies have investigated programs or courses in a blended learning format, which integrates computer-assisted or web-based learning with learning in traditional classrooms. Typically, students attend face-to-face lessons on certain days of the week and work independently in computer laboratories on other days. Some studies have explored student perceptions of the blended format using questionnaires and interviews. Their findings are largely positive, showing that students find the mixed format interesting and effective (Ayres, 2002; Felix, 2001; Huang, 2016; Sagarra & Zapata, 2008; Stepp-Greany, 2002). In one study, students preferred a blended course to an entirely face-to-face or computer-based course, thinking that the two components complemented and benefited each other (Huang, 2016). In another study, students considered the computer-assisted language learning (CALL) component to be an important "add-on" that promotes their learning in the classroom (Felix, 2001).

Although students generally find it effective to supplement traditional face-to-face learning with CALL, their views on its advantages vary. Students in some studies have reported that the time spent in a computer lab is useful for learning vocabulary and grammar (Ayres, 2002; Sagarra & Zapata, 2008) while those in others have said that it helps them develop listening and speaking skills (Huang, 2016; Stepp-Greany, 2002). In one study, students reported that the CALL component helped them gain cultural knowledge and independent-learning skills as well as L2 knowledge and skills (Stepp-Greany, 2002). The diversity in the reported advantages likely reflects the diversity in the content of the blended courses students enroll in and the digital tools they employ. For example, in one study, the blended course was reported to be helpful for speaking development (Stepp-Greany, 2002) while in another, it was reported to lack enough opportunity for oral production (Felix, 2001). Student views have been more consistent concerning features that are less relevant to

the course content. Multiple studies have mentioned the ability to repeat content as an important benefit of learning on a computer (Ayres, 2002; Felix, 2001; Sagarra & Zapata, 2008). Other benefits perceived by students include time flexibility, privacy, and confidence (Felix, 2001).

As discussed earlier, in most studies, the majority of students found the integrated format more favorable than face-to-face or CALL alone. However, some students in these studies indicated a clear preference for one component, with those who preferred the face-to-face component exceeding those who preferred CALL (Ayres, 2002; Huang, 2016; Stepp-Greany, 2002). Their views on the disadvantages of the CALL component are fairly uniform. In a study of L2 French and Spanish blended courses at a German university, Stracke (2007) explored the perceptions of three students who left their course after a few sessions. Although a primary survey showed that the majority of students viewed these courses positively, two of the three students mentioned an inadequate connection between the face-to-face and computer-based components as the reason for dropping out, and one mentioned insufficient teacher support as the reason. Students in other studies echoed these responses. They considered the absence of teachers in the computer lab to be a disadvantage of the CALL component (Felix, 2001) and claimed that the teacher's role was essential in blended learning (Stepp-Greany, 2002). The majority of students in Ayres' (2002) study seemed to understand the importance of integration, considering CALL an important part of the course but not wanting it to replace classroom time.

Student Views on Using Computer-Mediated Communication for L2 Learning

The past few decades have witnessed rapid advancements in digital technology and its application in language education. Even before the COVID-19 pandemic, L2 teachers utilized various tools for CMC to provide students with opportunities to interact in multimodal environments. Researchers have conducted experimental studies to test the efficacy of these tools.

Text Chat

Text chat has been the most widely used CMC tool in L2 classrooms for a

long time. It supports written CMC, enabling users to exchange short messages online. It is available in smartphone messaging applications, videoconferencing platforms, and learning management systems; thus, it is easily adaptable to educational contexts. Most previous studies have treated text chat as a means of synchronous CMC in which learners send messages instantly. However, text chat can be a tool for asynchronous (delayed) communication when users wait before sending replies. The time gaps created are often helpful for learners, liberating them from the pressures of real-time production. They can use this time to comprehend messages from others, plan how they will respond, and edit their responses before sending them (Abrams, 2003).

Blake (2009) investigated the perceptions of adult ESL learners who participated in a series of vocabulary exercises and discussion activities either face to face or via text chat. A questionnaire at the end of the course revealed the same tendency as in the blended learning studies: Learners in the face-to-face group had more positive views of the course than those in the text-chat group. For example, all learners in the face-to-face group strongly agreed that the program was useful whereas only 70% of learners in the text-chat group did so. Seventy percent of the face-to-face group found the lessons to be effective for developing fluency while only 40% of the text-chat group had the same opinion. Notably, 70% of the text-chat group strongly agreed that lessons would have been more effective if conducted face to face.

However, student perceptions in Freiermuth and Jarrell's (2006) study were strikingly different. EFL students at a women's university in Japan completed two decision-making tasks, one using text chat and the other face to face. A posttask questionnaire indicated that the majority of students preferred text chat. They found it easier to communicate remotely without facing the interlocutor because they could concentrate on the written messages. When working face to face, students had to consider social cues, including attributions, age differences, and familiarity with one another. This particularly discomforted the first-year students who partnered with seniors they met for the first time. The analysis of recorded interactions validated the survey results: Students participated more equally and used less first language in text chats than face-to-face interactions.

Pérez (2003) compared students' views of text chats and email dialogue journals. Both support text-based communication; however, the latter entails longer time gaps between messages. L2 Spanish students at a US university participated in weekly whole-class text-chat discussions and email journal exchanges with the instructor before answering a survey. Their responses were completely divided: 50% preferred text-chat discussions while the other 50% preferred dialogue journal activities, and none disliked either. As an advantage of text-chat discussions, the students mentioned being able to immediately ask the teacher about unknown words. As advantages of the email dialogue journal, they reported feeling more relaxed and having sufficient time to think and develop ideas.

Voice Chat and Videoconferencing

Further advancements in digital technology have led to the emergence of platforms for voice/video chat and videoconferencing such as Skype, Zoom, and Microsoft Teams, which are easily accessible on tablets, smartphones, and computers. The use of these platforms rapidly proliferated during the COVID-19 pandemic as a means of teaching and learning without in-person meetings. These platforms support synchronous communication using voice and video, enabling users to interact almost seamlessly, similar to face-to-face environments. In videoconferencing, learners can also employ visual cues that facilitate communication, such as facial expressions, head movements, and hand gestures, in the same manner as in face-to-face interactions. Research has shown that L2 learners' interactions on these platforms display some features of face-to-face interactions that are considered facilitative for L2 development, such as speech acts, discourse functions, and negotiation moves (Loewen & Wolff, 2016; Sauro, 2013). One study provided evidence that communicative skills acquired through voice chat are likely to be transferred to face-to-face contexts (Bueno Alastuey, 2011).

Some studies have investigated how L2 students perceive communicative activities through voice chat, yielding generally positive results. In Bueno Alastuey's (2011) study, two university EFL classes in Spain regularly completed pair communication tasks. Students in one class worked face to face with each other while students in the other worked remotely with L1

Turkish students using voice chat. The end-of-course survey showed that voice-chat students viewed their experiences more positively, with more students reporting satisfaction with the tasks, improvements in their oral skills, and confidence in communicating in L2. As benefits of voice chat, these students mentioned opportunities for authentic interactions and the increased use of L2. They also considered anonymity and the lack of visual information as advantages, granting them a safer environment for interacting with strangers. However, as the researchers acknowledged, the study was limited in that the two groups were defined not only by task mode but also by pairing (same L1 or different L1), and the students' positive perceptions were not entirely attributable to voice chat.

Satar and Özdener (2008) compared students' views and levels of foreign language anxiety between voice chat and text chat. EFL students at a vocational school in Turkey participated in weekly sessions over four weeks on either platform, and each time they completed two communication tasks. In the post-program questionnaire, more students in the voice-chat group than in the text-chat group agreed that the sessions helped improve their speaking skills and reduce their anxiety. However, the reported decrease in anxiety was not solely attributable to the use of voice chat. More students in the voice-chat group agreed that it was easy to communicate because they knew their partners well, and they would be more worried about non-understanding if they had to voice chat with foreigners. In contrast, most students in the text-chat group agreed that the platform did not cause any communication problems and enabled them to think about what they wrote. In fact, only in this group did the actual anxiety levels drop significantly after the sessions.

Flipgrid

Flipgrid (currently called Flip) is an educational application that helps teachers and students create and upload short video clips. This enables them to communicate with each other through video messages. Like videoconferencing, the use of videos makes it possible for students to use nonverbal cues, such as facial expressions and body movements, to facilitate communication. However, unlike interactions on Zoom or Microsoft Teams, interactions on Flipgrid tend to be asynchronous, leaving time gaps between

messages, because it takes time for viewers to watch an uploaded video, prepare a video reply, and upload it. As discussed earlier regarding text chat, these time gaps can be considered advantageous, allowing students to replay incoming messages until they fully understand them, think of how they will react, and review videos before sharing them. However, this may also deprive them of opportunities to experience the features of real-time spoken interactions.

Similar to videoconferencing platforms, Flipgrid's growth in popularity coincided with the COVID-19 pandemic, and its efficacy has yet to be assessed. One of the few research attempts, Edwards and Lane's (2021) study investigated students' perceptions in a university EFL context in Japan. These students used Flipgrid to create videos related to the course content, shared them with classmates, and posted video responses to classmates' videos. Their reactions to the activity were generally positive; the majority found it enjoyable and had no problems using the platform. They reported that the use of Flipgrid increased communication and helped them learn about each other. Nevertheless, some students found the platform difficult to use or felt uncomfortable having classmates watch their videos. Notably, the students who replied to their classmates' posts tended to feel more positive about interacting on Flipgrid than those who did not reply.

Purpose of the Present Study

Previous L2 studies on blended language learning have shown students' positive views on combining classroom learning and CALL. Students in these studies have highly evaluated the unique features of learning at the computer, such as maintaining their own pace, repeating content as needed, and feeling relaxed and confident in the absence of others (Ayres, 2002; Felix, 2001; Sagarra & Zapata, 2008). Nevertheless, students have tended to prefer the face-to-face component to the CALL component, mainly because the teacher is immediately available (Ayres, 2002; Huang, 2016; Stepp-Greany, 2002). Studies investigating student views on various CMC tools have yielded interesting findings. Those comparing text-chat interactions with face-to-face or voice-chat interactions showed that students considered this CMC tool less effective for oral skills development (Blake, 2009; Satar & Özdener, 2008).

However, research has also revealed that students recognize text chat's advantages, including its slower pace and distance from the interlocutor (Freiermuth & Jarrell, 2006; Pérez, 2003). A recent study on Flipgrid demonstrated its potential to provide students with extra opportunities for interaction (Edwards & Lane, 2021).

However, despite these findings, the sheer dearth of literature prevents researchers from drawing conclusions about how students perceive the various CMC tools used in L2 classes. In particular, research is required to investigate students' views on using asynchronous or written CMC tools in activities designed to practice synchronous oral communication. The researchers' earlier study (Tsuzuki et al., 2023) compared text chat and Flipgrid with face-to-face interactions in terms of how effectively they prepared university EFL students for group discussion tests conducted face to face or through videoconferencing. The study showed that Flipgrid practice and text-chat practice led to significantly lower test scores than face-to-face practice. No significant differences were found between the two CMC tools, but interestingly, the mean scores of the three participating classes were far apart from each other only when they practiced using Flipgrid.

In view of these research gaps and previous findings, the present study investigates how EFL students consider preparing for group discussion tests in three modes: (a) Text Chat, (b) Flipgrid, and (c) face to face or videoconferencing using Zoom (FTF/Zoom). For this study, FTF and Zoom are considered as one mode because the discussion test in the research context was administered FTF or via Zoom, depending on the COVID-19 situation. In addition to identifying which practice mode students consider the most helpful, this study explores which aspect of the discussion tests students consider the three modes helpful for. Through these investigations, this study aims to fill the gaps in the literature and produce valuable implications for L2 instructors seeking to employ CMC tools in their post-pandemic teaching. The following research questions were formulated:

1. Which mode do students consider the most helpful when preparing for discussion tests: (a) Text Chat, (b) Flipgrid, or (c) FTF/Zoom?
2. Which aspect of the discussion tests do students find these modes helpful for: (a) language use, (b) idea construction, or (c) affective aspect?

Method

Research Context

This study is part of a larger research project, and the data collection was conducted simultaneously with the same participants as in a previous study (Tsuzuki et al., 2023).

Participants and the Courses

The study included 64 first-year non-English majors who signed a consent form at a Japanese university. They belonged to three different departments and were in one of three required English classes. Classes 1 and 2 were the same course, aimed at helping students activate their English knowledge through actual use and master the language necessary for interpersonal interactions. While only Class 3 included a reading component, one of its focuses was to help students improve their overall ability to use spoken English and become confident and proficient English communicators. The courses continued for one year over four terms. Each term lasted seven weeks, and the students attended two classes per week for 100 minutes each. All three classes were taught using a collaborative learning style. Discussions and presentations were conducted to assess the students' speaking skills.

Preparation for Discussion Tests

Students read three short articles from the textbook, exchanged summaries to check their understanding of the content, and created discussion questions about the article topics in groups. Subsequently, they discussed the questions in the same groups. In the following class, they individually chose one article and finalized three discussion questions with the students who chose the same article. After preparing their opinions and supporting details, students conducted practice discussions in groups of three or four.

Discussion Tests

In the next class, the students took a discussion test in groups of three or four. Groups of three were given 9 minutes, and groups of four were given 12 minutes. Appendix A presents the topics of discussion tests for each term.

Appendix B provides the rubric for Discussion Test 1 in Term 1 for all classes. The target functions and rubrics for the four discussion tests were slightly different, but all included essential speech acts, discourse functions, and communication strategies for group discussions.

Data Collection

The participants completed one discussion test for each term, and before each discussion test, they practiced the discussion in four different environments: Zoom breakout rooms, face-to-face in person, Flipgrid, and text chat. In Term 1, all three classes engaged in a preparation activity using the same method (Zoom) and took the discussion test in the following lesson. In Terms 2 to 4, the three classes engaged in a practice activity in one of the three other modes, as shown in Table 1. In the Text Chat mode, the participants exchanged written messages on the university's learning management system (LMS). In the Flipgrid mode, they recorded video messages and exchanged them on the platform.

Table 1
Different Platforms Used for Discussion Practice

	Term 1		Term 2		Term 3		Term 4	
	Practice	Test	Practice	Test	Practice	Test	Practice	Test
Class 1	Zoom	Zoom	Text Chat	FTF	Flipgrid	Zoom	FTF	FTF
Class 2	Zoom	Zoom	Flipgrid	FTF	Text Chat	Zoom	FTF	FTF
Class 3	Zoom	Zoom	FTF	FTF	Text Chat	Zoom	Flipgrid	FTF

Note. FTF = face to face

After each discussion test in Terms 1 to 4, the students were asked to answer a questionnaire consisting of seven items on a 4-point Likert scale (Agree, Somewhat Agree, Somewhat Disagree, Disagree) and one open-ended question (see Table 2). In addition, after the discussion test in Term 4, the participants were asked to rank the three modes (Text Chat, Flipgrid, and FTF/Zoom) based on their usefulness in practicing discussion (see Table 3). The surveys were written in Japanese, and the students answered them outside of class on the LMS provided by the university. They answered the open-ended

question (Item 8) in either Japanese or English. Responses were not anonymous.

Table 2
Questionnaire Items in Terms 1 to 4

Choose the most appropriate one among Agree, Somewhat Agree, Somewhat Disagree, and Disagree for Items 1 to 7.
1. The preparation activity helped me practice the target functions and phrases.
2. The preparation activity helped me practice expressing my ideas in English.
3. I was able to deepen my understanding of the topic because I heard/read my peers' ideas during the preparation activity.
4. I was able to organize my ideas because my peers asked me questions during the preparation activity.
5. I was not nervous during the test because of the preparation activity.
6. Knowing my peers' level of engagement in the preparation activity motivated me to prepare well for the test.
7. On the whole, the preparation activity was helpful for the test.
8. Please write down any comments about the preparation activity. (This is an open-ended question.)

Note. The original questionnaire items were written in Japanese.

Table 3
The Ranking Question in Term 4

How much did the preparation activities in different modes help you for the discussion test? Number the three preparation activities you have done according to the level of usefulness: (1) the most useful, (2) the second most useful, and (3) the least useful.
( ) FTF/Zoom
( ) Flipgrid
( ) Text Chat

Note. The original questionnaire items were written in Japanese.

Data Analysis

As described above, the participants were asked to complete the questionnaire outside class. Presumably because of this, some students failed to complete all four questionnaires or some parts of a questionnaire. Therefore, the sample size varied across the items and modes. Sample sizes are listed in Table 4.

Table 4
The Sample Size for Items 1 to 7

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
FTF/Zoom	51	51	51	51	51	51	50
Text Chat	45	44	44	44	43	43	44
Flipgrid	46	44	45	44	45	45	47

Note. FTF = face to face

Students' responses to Items 1 to 7 of the questionnaire were converted to numerical values as follows: Agree = 4, Somewhat Agree = 3, Somewhat Disagree = 2, and Disagree = 1. Based on these values, the mean scores were calculated for each of the three modes: (a) Text Chat, (b) Flipgrid, and (c) FTF/Zoom. The mean scores for FTF/Zoom were calculated based on the sum of the values for the FTF and Zoom preparation activities.

Results

Items 1 and 2: Language Use

Survey items 1 and 2 concerned students' perceptions of the impact of the preparation activity on their language use. Item 1 asked about the degree of usefulness of the activity in practicing the target functions and phrases. FTF/Zoom was perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.6, 3.3, and 3.1, respectively. Item 2 asked about the degree of the usefulness of the activity in expressing ideas in English. FTF/Zoom was perceived as the most useful, followed by Flipgrid and Text Chat. The average scores were 2.6, 2.5, and 2.2, respectively.

Items 3 and 4: Idea Construction

Survey items 3 and 4 concerned the students' perceptions of the impact of the preparation activity on their idea construction. Item 3 asked about the degree of the usefulness of the activity for understanding a topic. FTF/Zoom was perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.9, 3.6, and 3.5, respectively. Item 4 concerned the degree of the usefulness of the activity in organizing one's own ideas. FTF/

Zoom was perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.5, 3.2, and 2.8, respectively.

Items 5 and 6: Affective Factors

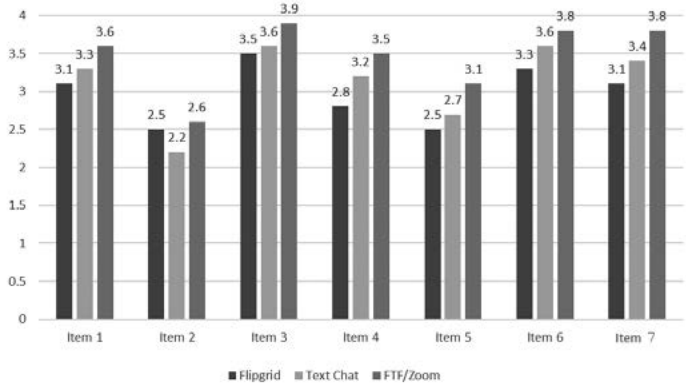
Survey items 5 and 6 concerned students' perceptions of the impact of preparation activities on affective factors. Item 5 asked about the degree of the activity's usefulness in reducing test anxiety. FTF/Zoom was perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.1, 2.7, and 2.5, respectively. Item 6 concerned the degree of usefulness of the activity in increasing the motivation to prepare for the test. FTF/Zoom was perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.8, 3.6, and 3.3, respectively.

Item 7: General Usefulness

Survey item 7 asked students to evaluate the general usefulness of the preparation activity for that term. FTF/Zoom was again perceived as the most useful, followed by Text Chat and Flipgrid. The average scores were 3.8, 3.4, and 3.1, respectively. The average scores for Items 1 to 7 are summarized in Figure 1.

Figure 1

The Average Scores for Items 1 to 7



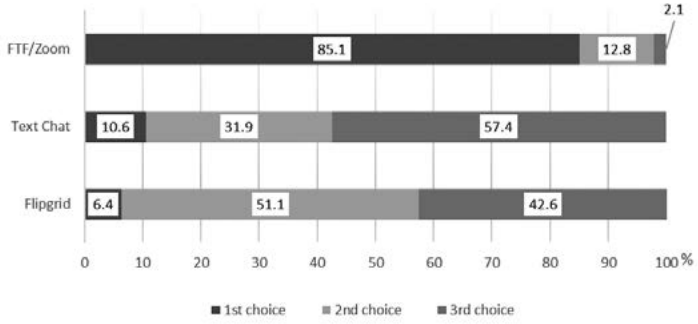
Note. Students' responses to each item were converted into numerical values as follows: Agree = 4, Somewhat Agree = 3, Somewhat Disagree = 2, Disagree =1. FTF = face to face.

Ranking Question

The survey conducted after the fourth discussion test included an additional item to ascertain students' rankings of the three modes of preparation activity. A total of 47 participants provided their ranking of the three modes (1 = most useful, 3 = least useful). As shown in Figure 2, FTF/Zoom was the most popular first choice, selected by 85.1% of the students, followed by Text Chat (10.6%) and Flipgrid (6.4%). Thus, when comparing Text Chat and Flipgrid, more students chose Text Chat over Flipgrid as their first choice. However, Flipgrid was the most popular second choice, selected by 51.1% of the students, followed by Text Chat (31.9%) and FTF/Zoom (12.8%). Although the same trends were observed across the three classes, some noticeable differences were also observed. In Class 1, some students chose Text Chat (16.7%) and Flipgrid (16.7%) as their first choices. However, none of the students chose Text Chat as their first choice in Class 2 and none of the students chose Flipgrid as their first choice in Class 3.

Figure 2

Ranking of the Three Modes



Note. n = 47; FTF = face to face.

Discussion

Research Question 1

Generally, the students in this study considered the FTF/Zoom mode most helpful for discussion test preparation. The average score for Item 7 of the

questionnaire was the highest for FTF/Zoom, the second highest for Text Chat, and the lowest for Flipgrid. However, these results may not reflect the students' objective assessments of the three modes. Each term, Item 7 asked students to assess the preparation activity of that term; therefore, students did not necessarily evaluate the practice mode they used in comparison with other modes. For example, in Term 1, all three classes engaged in the preparation activity for the first time, all using Zoom, so they were not in a position to compare it with Text Chat or Flipgrid. Because of this, the results of the ranking question, which the students answered after experiencing all three modes, are more reliable. As reported in the previous section, an overwhelming majority of students ranked FTF/Zoom first, with much fewer students ranking Text Chat or Flipgrid first. Between these two modes, Text Chat was the more popular choice for the most useful mode, but Flipgrid was the more popular choice for the second-most useful mode, indicating that the rank order of these two modes was not decisive.

These results support the findings of the blended L2 learning literature that students who preferred the FTF component were larger in number than those who preferred the CALL component (Ayres, 2002; Huang, 2016; Stepp-Greany, 2002). These results are also consistent with the literature on various CMC tools. In these studies, students did not always support FTF interaction or videoconferencing over other CMC tools (Bueno Alastuey, 2011; Freiermuth & Jarrell, 2006; Satar & Özdener, 2008) but found them to be beneficial for the development of speaking skills or oral fluency (Blake, 2009; Satar & Özdener, 2008). This is in accordance with the findings of the present study because the primary purpose of the preparation activity was to practice oral discussions.

Students' comments in response to Item 8 also indicate the superiority of the FTF/Zoom mode. Although there were no comments specifically about Zoom, those about FTF were all positive. The primary reason for the positive evaluation was that the FTF practice provided students with the same environment as the discussion test. One student commented, "Face-to-face practice was the best. Because I had practiced in the same way as the test, I could manage my time well on the test, even with a different group." Another wrote, "When I practiced face to face, I could easily communicate with other

students and practice in the same way as the real discussion test." (Comments originally written in English have been quoted verbatim. Comments originally written in Japanese have been translated into English.)

Rehearsing in the same environment as the test reduced students' anxiety and helped them actively participate in the test as one student observed: "Because I had practiced face to face, I could have fun without getting nervous and perform aggressively on the discussion test." In addition to experiencing the test environment in advance, the students enjoyed the benefits of synchronous oral communication. Some students compared the FTF/Zoom mode with others from this perspective. One student commented:

> I realized face-to-face practice was helpful because I can make corrections orally. Time lags happened in [Flipgrid] videos or [text] chat, and it was difficult to adjust the timing [for speaking], and it often didn't work. Because of this, I thought face-to-face was the best for [discussion test] practice or preparation.

Comparing it with Flipgrid, another student wrote:

> The Flipgrid practice helped me say the sentences I would actually use. However, the face-to-face practice was more similar to the discussion test, and I could think of how I would react and improve my performance by hearing others' opinions or reactions.

Another student who compared it with text chat also mentioned reactions: "To practice responding, face-to-face is better."

Research Question 2

The superiority of FTF/Zoom was also shown in the results for Items 1 through 6, although not as clearly as in the ranking question. It achieved the highest average score for all the items. However, these results did not greatly contribute to answering Research Question 2. Except for Item 2, all average scores exceeded 2.5, with no definitive differences across the modes or items. This indicates that students generally found the preparation activities beneficial regardless of the mode, for practicing the target functions and phrases, understanding the topic, organizing their ideas, feeling relaxed, and increasing their motivation.

The results for Item 2 were different. All three modes yielded lower

average scores, indicating that more students disagreed with the statement, "The preparation activity helped me practice expressing my ideas in English." These results might be attributable to students' lack of confidence. For these students, expressing their ideas smoothly and accurately in English was likely the most challenging aspect of the group discussions. If the students responded to this item based on how they evaluated their performance rather than how they evaluated the effectiveness of the mode, it is not surprising that the average scores were lower than those for the other items. This assumption is validated by another notable distinction: Text Chat yielded the lowest average score for Item 2. Text chat, a tool for written communication, makes students' output visible and directs their attention toward problems. Their lower confidence levels might have led to their lower evaluation of the practice mode because of this feature.

Student Perceptions of Flipgrid

Students' comments in response to Item 8 provide further insight into their perceptions of the two CMC modes. For the ranking question, more than half of the students selected Flipgrid as the second-most useful mode. Although the literature on Flipgrid is scarce, one study showed its potential as a tool for communicative activities, and the key was to encourage students to respond to each other's videos (Edwards & Lane, 2021). The students in the present study seemed to understand the importance of interaction when using Flipgrid. One student wrote, "I could hear several opinions of other students, so I could learn different views from me [*sic*]." Another said, "I think it's very important to hear others' opinions and compare them with mine or incorporate them into mine, so the practice activity [using Flipgrid] was very good."

Flipgrid supports asynchronous (i.e., delayed time) communication, and some students found the time gaps useful for repeatedly watching other students' videos to understand them better. One student wrote, "I think discussion of [Flipgrid] application is very good because I can listen to friend's opinions and reasons many times." However, other students regarded the time gaps as a disadvantage of Flipgrid practice, as one student critically stated: "We couldn't practice because the time lags were too long." Another student concisely summarized the benefits and drawbacks of time gaps: "Time lags

helped us practice stating our opinions and listening to others' opinions, but they prevented us from participating when we just wanted to give backchannels or ask simple questions like 'why?' immediately."

As in Edwards and Lane's (2021) study, some students found Flipgrid difficult to use or felt uncomfortable displaying themselves in videos. One student wrote, "Taking the video was somewhat difficult, and when I realized it, it was the day of the test." Another explained, "I couldn't find enough time to make my video. I can type on the train or somewhere like that, but I can shoot a video only at home or in a quiet place." A few other students admitted that they felt uncomfortable or embarrassed to show their faces in the videos. Although the video features of Flipgrid can be used for practicing nonverbal cues such as facial expressions or hand gestures, no students commented on this point.

Student Perceptions of Text Chat

The largest number of students ranked Text Chat third in the ranking question. Their comments suggest that one of the reasons for this was the time gap between messages. As discussed earlier, text chat is widely considered a platform for synchronous CMC that supports the quick exchange of short messages. However, students' comments indicate that their interactions did not proceed smoothly, largely because of their poor typing skills. One student observed, "The discussion practice using text chat did not proceed like face-to-face discussion because there was a big difference between our speaking speed and typing speed." Time gaps also disrupted the flow of text-chat discussion, as one student reported: "I asked the next question while my partner was still typing [a response to the previous question], which confused the order [of messages]."

Previous studies have reported students' positive views of the asynchronous nature of written communication. They like it because it allows them time to understand messages from others, think of how they will respond, and edit their own messages (Pérez, 2003). Some students in the present study found this feature useful, particularly when considering follow-up questions. One student wrote, "I could practice asking follow-up questions, so I knew how to use them in discussions." The time gap between messages also encouraged

students to focus on the form of their output and care about accuracy, as shown in another student's comment: "By writing down what I was going to say, I found errors and recognized phrases I often used."

Another perceived benefit of text chat shown in the literature is its anonymity. Being able to hide their identities makes some students feel comfortable and helps them concentrate on messages (Freiermuth & Jarrell, 2006). However, for the students in the present study, this feature was disturbing rather than facilitative. One student reported, "[The text-chat discussion] was a little difficult because the messages were anonymous and we didn't know who was speaking." The negative view of anonymity was presumably due to the fact that they worked with classmates they had already become familiar with.

As with Flipgrid, some students pointed out that active interaction is the key to preparing for discussion tests using text chat. One student wrote, "Our preparation group exchanged messages regularly, so we could feel as if it were the real discussion test. It was good." Another student reported that their group set their own deadline for posting messages, which allowed them enough time to read each other's messages and respond to them.

Pedagogical Implications

Valuable pedagogical implications can be drawn from these results. The students in this study did not find Text Chat or Flipgrid as useful as FTF/Zoom in preparing for the discussion test. This was mainly because they wanted to practice the discussions in an environment similar to that of the discussion test. However, students' positive comments on Text Chat and Flipgrid suggest that these CMC modes can effectively supplement FTF/Zoom practice if carefully implemented. There are four key points for incorporating CMC activities into classroom teaching. First, CMC activities should complement or expand classroom activities, such as using CMC for pre-class preparation, reviewing class materials, and homework assignments. Second, detailed examples and explanations of how to use CMC modes, even those used previously, are necessary to meet specific objectives. In this study, the students in Class 3 had used Flipgrid for group presentations prior to the discussion practice, but several of them did not seem to use it effectively.

Third, teacher support is particularly important when CMC activities are assigned for homework. It is ideal to start an activity in the classroom and complete it as homework. If it is group work, everyone should use the CMC mode at least once during class so that the teacher can confirm that each student knows how to use it. If a CMC activity is started outside class, it is a good idea to limit the homework period to a short time and allow the teacher to observe the initial interactions. Finally, the teacher should check how the CMC screen appears to the students before using it. In this study, the students' text-chat screens were different from those of the teacher, and until the activity started, the teacher was unaware that the students did not know who wrote each message. Overall, these key points suggest the importance of training students to use CMC effectively. To make the experiment ethically feasible, the researchers provided all students with the chance to experience all three modes. However, from a pedagogical perspective, it would be better for students to continue using the same CMC mode to enhance their skills.

Future Research

This study explored how students perceive the effectiveness of different technologies used to prepare for discussion tests. While students' perceptions have valuable pedagogical implications for teachers, they may not accurately reflect their learning outcomes. Even when students report that a particular mode is more useful than others, they may not have learned more in that mode. Therefore, there is a need to investigate the relationship between different technologies and learning outcomes to ascertain their effectiveness on student performance. Future research could measure students' learning outcomes by counting the number of target functions used in discussion and comparing them across different practice modes. Such research could contribute to identifying specific technologies and patterns of language use associated with students' successful test performance.

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Appendix A
Discussion Topics

	Discussion 1	Discussion 2	Discussion 3	Discussion 4
Classes 1 and 2	Food	Education	Work	Beauty
Class 3	Family	Food	Education	Work

Appendix B
Rubrics for Discussion 1

	4	3	2	1	0
Opinions	Both giving and asking for an opinion at least 2 times	Both giving and asking for an opinion at least once, and at least 3 times all together	Giving and/or asking for an opinion at least 2 times	Giving or asking for an opinion once	None
Reasons	Both giving and asking for a reason at least 2 times	Both giving and asking for a reason at least once, and together at least 3 times	Giving and/or asking for a reason at least two times	Giving or asking for a reason once	None
Agreeing or disagreeing		Always agreeing or disagreeing with other opinions when possible	Often agreeing or disagreeing with other opinions when possible	Agreeing or disagreeing with other opinions when possible once	None
Asking follow-up questions except for reasons		Asking three or more follow-up questions except for reasons	Asking two follow-up questions except for reasons	Asking one follow-up question	None
Responding		Responding three times or more often	Responding two times	Responding once	None
Asking for clarification			Both asking for clarification and showing you understand at least once	Either asking for clarification or showing you understand	None
Shadowing				Shadowing before answering a question at least once	None