



A Study of Students' Perceptions Toward the Use of ICT Tools and Collaboration Activities to Increase Interactions During COVID-19

Irvin, Christopher¹; Park, Seong Man²

Abstract

This study has been conducted to investigate what students thought about their experiences trying to interact more frequently during the fall semester of 2020. It took place in a general English classroom at a private Korean university during the COVID-19 pandemic and aimed to gain insight into students' perceptions of whether using a learning management system and other Information and Communication Technology tools, taking part in asynchronous discussion board activities, and completing voluntary activities would increase the number of interactions despite taking an emergency online class. A total of 28 first-year students from 6 different sections of a freshmen-level general English course voluntarily participated by filling out a survey at the end of the semester. For data analysis, descriptive statistics were initially analyzed to provide basic numerical data. Then, qualitative analysis was used to find common themes. Finally, student quotes were used to add greater meaning to the findings. The main finding was that the number of interactions between learners and the content, their instructors, and their peers increased due to the use of the learning management system and Information and Communication Technology tools. More detailed findings and implications for future uses are discussed.

Keywords: voluntary activities, interactions, learning management system, information and communication technologies, general English education

Applicable levels: secondary, tertiary

¹ First author, Assistant professor, College of Liberal Arts, Dankook University (Cheonan Campus), 119, Dandae-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do, 31116, Korea (E-mail: christopherirvin@dankook.ac.kr)

² Corresponding author, Assistant professor, College of Liberal Arts, Dankook University (Cheonan Campus), 119, Dandae-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do, 31116, Korea (E-mail: seongmanpark@dankook.ac.kr)

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I. INTRODUCTION

The start of the 2020s is a time in education that many scholars across the world will point to as the year(s) that traditional face-to-face teaching was interrupted and replaced by emergency remote teaching (ERT). The cause for this monumental global shift to online learning was the COVID-19 pandemic. According to Yazgan (2022), approximately 92% of the world's student population was affected by COVID-19, with the sudden shift from face-to-face to ERT having major consequences for instructors, learners, and administrators. A major result of this sudden shift was increased use of Learning Management Systems (LMSs) and Information and Communication Technologies. Unfortunately, for many teachers and students, the spring semester of 2020 was extremely challenging due to difficulties using the LMSs or ICT tools. For example, it was found that some learners lacked internet access or access to certain programs, dealt with slow-speed internet connections, experienced problems sharing or exchanging materials, and struggled to use new ICT tools that were not always consistent across courses (Famularsih, 2020). Despite these initial challenges and barriers, over time, both instructors and learners gained a better understanding of how to implement different ICT tools. In addition to the new technology challenges, the shift to ERT disrupted many aspects of the learning process. One of the biggest disruptions was a decrease in the number of interactions that students could expect to have with their teacher or peers.

Many of today's modern educators emphasize the importance of student-centered approaches that rely on numerous interactions between learners and their learning environment. Interactions within a classroom, even a virtual one, can be broken down into 3 types of interactions: learner-content, learner-instructor, and learner-learner (Moore & Kearsley, 1996; Strachota, 2003). Each type of interaction is important to individual students, as the presence or absence of any or all of them can result in students' feeling a stronger or weaker connection to the school. According to Tinto (2010), student persistence rates are based on students' expectations related to the environment, institute, and peers. Yet, due to the COVID-19 pandemic, university students, especially freshmen, struggled to have normal interactions with their instructors, classmates, or the school facilities. One example was the use of asynchronous video lectures as the primary method of dispersing lecture materials. Not only did this one-way approach not allow students to interact directly with their instructors, but it also led to learners feeling like they either did not completely understand the materials or they were unable to successfully accomplish the tasks were unable to successfully (Mahyob, 2020). These negative feelings and experiences resulted in many students having adverse opinions about their online classes. Moreover, this led to many learners adopting strong avoidance attitudes toward their online lessons (Nartiningrum & Nugroho, 2020). Consequently, many students felt isolated, had a lower sense of belonging to the school, and desired more interactions with their instructors and peers.

Despite the lower number of interactions during the spring semester of 2020, there were some positive aspects that came from ERT. For one thing, online learning afforded many students the opportunity to take classes whenever they wanted, and it was found that being able to watch the video over again allowed for more understanding of the content (Mishra, Gupta, & Shree, 2020). Additionally, the virtual classroom provided opportunities for both learners and instructors to develop their technology abilities and increase their comfort level with LMSs and different ICT tools (Aguilera-Hermida, 2020). Therefore, as the spring semester came to an end, both instructors and students could reflect on the skills they had developed and be better prepared for the fall semester of 2020. For educators of higher education (HE), the break between semesters was an extremely valuable time to determine how their curriculums could be better adapted to the virtual classroom environment. These curriculum changes were aided by school administrators. This administrative aid came in the form of a wide variety of training programs (e.g., training videos or tutoring programs) that could help teachers become more comfortable employing different ICT in their online classes (Llerena-Izquierdo & Ayala-Carabajo, 2021). The result for many instructors was that the fall semester afforded many opportunities to put into practice their new knowledge of their LMSs and ICT tools to provide higher-quality lessons. Moreover, their new knowledge and skill set would allow educators to increase the number of interactions between each learner with the content, the teacher, and their peers.

As a way to promote student-centered classroom environments, many modern educators utilize the theory of collaborative learning (CL). "Collaborative learning is an instruction method rooted in constructivism and social learning theories," (Kalmer et al., 2022, p. 2) which means that small groups work together actively sharing knowledge to create a product (Kalmer et al., 2022). As noted above, the number of collaboration opportunities during

the spring semester of 2020 was limited. However, entering the fall semester of 2020, many educators of HE employed several different methods to increase student interactions. The first method to increase interactions was the use of an LMS. According to Cavus, Mohammed, and Yakubu (2021), LMSs are an ICT tool that allows instructors to deliver their content and provides opportunities for learners to collaborate with one another online. The authors also suggest that an LMS can be a great communication tool and a place to integrate multimedia, but the successful use of any LMS is based primarily on the ability of the instructor to distribute course materials effectively and efficiently (Cavus et al., 2021). Next, a second way that teachers attempted to increase the number of interactions was the use of discussion boards (DBs). Dumford and Miller (2018) found that while participants were less likely to engage in collaborative learning in offline classes compared to online, the use of asynchronous discussion boards could be very beneficial. Specifically, DBs were reported to lead to higher interactivity and engagement amongst learners, which also resulted in higher course performance (Dumford & Miller, 2018). A final way that educators tried to increase interactions was the incorporation of voluntary activities. The goal of these activities is to give learners extra opportunities to practice or improve their skills. However, they can also be used to encourage highly motivated and engaged students to stay active and receive specific feedback regarding how they can broaden their knowledge or improve their skills. Ratcliff, Minster, and Monheim (2021) found that the 79 undergraduate participants in their study who completed volunteer asynchronous DBs had increased engagement in the course. In total, the three methods introduced in this paragraph (i.e., use of LMSs, asynchronous DBs, and voluntary activities) were just three of the ways that instructors attempted to increase the number of interactions during the fall semester of 2020. The prior studies mentioned already establish that there has been general discourse about the three methods but finding specific cases that elicit qualitative results based on learners' experiences and perceptions during this time is limited. Additionally, within the Korean context, there does not seem to be much research considering LMSs and ICT tools to increase interactions in general courses during the pandemic. Lastly, as courses have returned to face-to-face classes, this study touches on how the utilization of LMSs and ICT tools during the ERT period can be incorporated into the traditional classroom environment.

Therefore, this study has been conducted to investigate what students thought about their experiences trying to interact more frequently during the fall semester of 2020. More specifically, this study took place in a private Korean university classroom in which learners were asked to not only watch pre-recorded lecture videos, but also utilize the universities' LMS, take part in asynchronous discussion boards, and decide whether to take part in voluntary activities for extra practice. To guide this research, the following questions were developed:

1. What are learners' perspectives towards the use of the LMS to organize the class, interact with the content, and act as a communication pathway?
2. What are learners' perspectives towards the use of online discussion board activities to increase interactions between students, their peers, and their instructor?
3. What are learners' perspectives towards the use of voluntary assignments to encourage increased interactions and feedback between students and their instructors?

II. LITERATURE REVIEW

1. Collaborative Learning (CL) in the Emergency Remote Learning Environment

The roots of CL theory can be found in social constructivism and social learning theories, which consider learning to be a social interaction that can be constructed through experiences (Bandura & Walters, 1977; Vygotsky & Cole, 1978). This theory has continued to gain popularity within the field of education as more educators adopt student-centered approaches that require learners to become more active and engaged in their own development. In a traditional face-to-face classroom environment, learners are often asked to work together to actively share their knowledge and create a product (Kalmer et al., 2022). In these cases, it is important for learners to be able to interact in diverse modes, whether that be learner-content, learner-instructor, and learner-learner (Moore & Kearsley, 1996; Strachota, 2003). However, in 2020, as classes moved to the virtual classroom, consideration needed to be given to

how the CL theories could be transferred into an online lecture. Fortunately, prior research related to online collaboration (i.e., computer-mediated collaborative learning) has been ongoing for decades. According to Warschauer (1997), the three most important factors to consider when making the transition to online include the way that the text will be distributed and collected, the way that talk will happen between the learners and instructors, and what kind of learning goals will be selected to determine the best way to transfer a curriculum into an online class. Moreover, as computers and online classes have become more prevalent, a new term has emerged. This term is computer-supported collaborative learning (CSCL), and its goal is to build from the prior foundation to consider how educators can help individual learners meet their specific needs while also considering how social interactions can still occur despite not having class in person (Herrera-Pavo, 2021).

These fundamental theories are critical to successful collaboration in both face-to-face and virtual environments, but at the start of the 2020 spring semester, the sudden shift to online classes was problematic for instructors and learners (Famularsih, 2020). As Gemmel, Goetz, James, Jesse, and Ratliff, (2020) noted, “pedagogical practices that foster active engagement often rely on student-student and student-instructor interactions that may be difficult to adapt to an online environment” (p. 2899). For teachers, especially more novice ones, there were initially great struggles due to a lack of technological knowledge and ability (Bailey & Lee, 2020). These difficulties or inability to effectively disseminate the course contents and interact with students led many learners to fall back on their personal attitudes and cultural beliefs towards CSCL (Fatimah, Rajiani, & Abbas, 2021). For instance, many students appreciated the extra time and flexibility they now how to study, while others struggled with being able to concentrate on their work or having feelings of isolation brought about by the lack of social interactions (Bui, Ha, Nguyen, Nguyen, & Ngo, 2021). One study that highlights the main struggle for teachers is that of Mustakim, Trisnarningsih, and Adha (2021). The team conducted a qualitative study of 57 teachers and students, and they reported that while instructors may have the capability to use basic technologies, many still encounter difficulties employing CL. However, they go on to suggest that efforts by the school and teachers can help to improve this situation (Mustakim et al., 2021). In addition, regarding learners’ challenges. A large-scale quantitative study of first-year university students found that one of the biggest challenges for CL was students’ struggles to locate teammates but that encouraging tolerance amongst groups along with consistent opportunities to work online could help increase collaboration among learners (Omodan & Ige, 2021). Therefore, based on the theory of CL and the challenges during the spring semester of 2020, this study identified three specific ways for learners to increase the number of interactions between the content, their peers, and the instructor. First, the use of an LMS to organize the class and deliver content to the students. Second, the use of asynchronous DBs to encourage students to increase collaboration with their peers. Third, the use of voluntary or bonus activities to provide students with additional opportunities to develop their skills and interact more with their instructor.

2. Learning Management Systems (LMSs)

Alias and Zainuddin (2005) define “LMS as a web-based framework designed to promote the learning as sustainability process in educational instructions properly planning, implementing, and updating it” (Alturki & Aldraiweesh, 2021, p. 2). Different LMSs have been employed by HE institutions and instructors for many decades. Yet, for some areas across the globe, the pandemic highlighted technological infrastructure deficiencies and brought to light challenges to culturally agreed upon learning systems that would need to be changed as classes went virtual (Cavus et al., 2021). Fortunately, the Korean context was not as bad as other countries. This is because Korea has a strong technological foundation of readily available internet access and a country of citizens who have embraced the use of computers, smartphones, tablets, and the internet (Bailey & Lee, 2020). However, while a strong technology structure was in place, this did not guarantee a smooth transition. This is because most students and instructors were not accustomed to learning online, leading to issues transitioning curriculums online and difficulties for students (Bailey & Lee, 2020). In addition, to the technological challenges, another big issue caused by the pandemic was social isolation, which led to a crossroads for many students of whether they would accept and use technology to show their intention of learning or whether they would become apathetic (Raza, Qazi, Khan, & Salam, 2021). To overcome these issues, many instructors of HE in Korea were proactive in incorporating ICT tools, such as an LMS, during the fall semester of 2020. These educators did this to promote more social engagement by the learners to

increase student satisfaction and enjoyment (Cavus et al., 2021). Another important aspect to consider is that an LMS is a way to organize and distribute materials to allow students to interact with the content. However, by combining different ICT tools or utilizing specific functions of an LMS, instructors were able to design lessons and activities that focused on collaboration (e.g., asynchronous DB activities). The product of these efforts not only increased interactions between learners with their instructors and peers but also helped many learners recognize the importance of peer support and cultivate a stronger sense of belonging to the school (Hall, Ragonathan, Wong, Low, & Choong, 2022).

3. Voluntary Activities

Voluntary activities, bonus activities, or extra credit work are all phrases used interchangeably to describe when learners earn additional points to their score for submitting an assignment early or completing a supplementary task (e.g., writing an extra paragraph, making an audio recording to state their opinions, answering additional comprehension questions based on a reading, etc.) (Felker & Chen, 2020). The use of these voluntary activities has been in classrooms for many years, but few studies have considered their pros and cons. Yet, one aspect that has been researched is learners' willingness to participate in these kinds of activities. According to Harrison, Meister, and LeFevre (2011), quantitative archival analysis of 508 university students indicated that learners with higher grades are more likely to complete voluntary assignments compared to those with lower grades. Moreover, they asserted that female students were more likely to complete extra assignments than their male counterparts, and those pupils enrolled in larger, lecture-style courses were more inclined to complete bonus assignments compared to those in smaller classes (Harrison et al., 2011). Another aspect that has been researched is how extra-credit assignments can be beneficial in language classes. According to Alley (2011), bonus activities in language courses can be extremely meaningful as they provide learners with chances to learn about other cultures, develop their skills (e.g., speaking and writing), and increase their enjoyment. Finally, regarding the use of bonus activities during the pandemic, Ratcliff et al. (2021) used a mixed methods approach to examine whether 79 undergraduate psychology and law students would have higher participation in a voluntary activity than normal. The results showed that a higher percentage did participate, which indicates that a voluntary activity can be beneficial during ERT because it promotes student engagement and increases critical thinking in an asynchronous online format (Ratcliff et al., 2021).

In summation, considering all three aspects (i.e., an LMS, asynchronous DBs, and voluntary activities), this paper aims to examine students' experiences through the fall semester of 2020. More specifically, it will consider student-reported perceptions and long response answers to find both positive and negative opinions of using ICT tools to increase interactions and collaboration during the fall semester 2020. By doing this, the hope is that the specific findings of this study's context (i.e., general English course within the Korean context) will provide insights for both the Korean context and the general context presented above. Moreover, this paper aims to add to the preparation of teaching and learning in any future emergency situations. Lastly, as classes have returned to face-to-face, the results of this paper will consider how instructors can use their increased knowledge and skills of an LMS and other ICT tools to implement more blended learning strategies into the traditional classroom setting.

III. METHODS

1. Participants and Setting

For this project, a total of 28 first-year students enrolled in a second-semester general English course at a private Korean university voluntarily participated. Based on their responses to the demographic questions on the survey, both males and females took part (i.e., 13 males, 14 females), with one participant choosing not to divulge their gender. All students were aged 19-22, with one person choosing not to provide their age. The participants from this study came from 6 different course sections that ranged in level (i.e., beginner, intermediate, and high). Despite the difference in levels, all 6 classes had the same instructor, and the textbook for each section came from the same series, *National Geographic: Great Writing* (4th ed.) (Foles, Muchmore-Vokoun, & Solomon, 2020). The majors of the

students were also varied (i.e., social welfare, public policy, nursing, management engineering, exercise prescription and rehabilitation, rugby, taekwondo, international sports, German, Mongolian, and Japanese). At the university where this study was conducted, freshmen students are required to take 6-credit hours of general English education (i.e., College English 1 and College English 2) to meet graduation requirements. Each course is 3 credit hours, so in a typical semester, learners will meet for 30 class sessions over a 16-week period. Face-to-face classes are usually held twice a week, with each session being 90 minutes long. However, as this study occurred during the fall semester of 2020, the institution where the project took place had moved from face-to-face to virtual classes due to the COVID-19 pandemic. In addition, at the start of the fall semester, the university revealed a revamped online e-campus, including a new LMS. Therefore, as part of the curriculum, all students were enrolled in the online LMS to have access to online materials. Moreover, a variety of asynchronous DB activities were developed to be completed throughout the course (e.g., posting contact information, sharing opinions about music, cultural extension about music, etc.). Finally, throughout the semester, a total of 10 voluntary activities were offered, with learners being able to complete a maximum of 5 to earn bonus points towards their participation score (e.g., Zoom conversation meetings classmates, written paragraphs about holidays, audio or video recordings introducing their own experiences, etc.). A complete list of the voluntary activities can be found in Appendix 1.

2. Data Collection and Survey

At the start of the semester, an initial survey was given to all the students enrolled in the 6 separate sections of the College English 2 course taught by the same instructor. The goal of this survey was to gather demographic information and provide insights into learners' experiences during the spring semester. The completion of this initial survey was a mandatory assignment in which students earned class credit for their participation, and only the demographic information was used from this survey to complete the previous section. Then, in the final week of the semester, students in all 6 sections were given the option to complete an additional survey to gain insight into their experiences during the fall 2020 semester. Unlike the first survey, this optional survey was completely voluntary and had no effect on their grade for the course. It was believed that results from an optional assignment would elicit more genuine responses about what learners felt based on their experiences. In the end, a total of 28 students completed the second survey, which was approximately 5% of the total number of students enrolled in the 6 sections.

The survey for this study consisted of a total of 15 questions, which can be found in Appendix 2. The style of questions for this survey included 4 Likert-scale questions, 1 multiple choice question, and 10 long response questions. In order to gain a basic understanding of learners' perceptions and experiences, the self-reported Likert-scale and multiple-choice questions were made. For the four Likert-scale questions, a 7-point Likert-scale was used (i.e., 1 = *very hard* or *very dislike* to 7 = *very easy* or *very like*). In addition, the multiple-choice question asked respondents to indicate the total number of voluntary activities they had completed throughout the semester (i.e., 0; 1; 2; 3; 4; or 5). These figures alone provide some understanding of learners' thoughts, but to gain a deeper understanding, long response questions were also provided. Participants were encouraged to write as much detail as possible for each question to gain deeper meaning. There was a total of 2 questions directly related to the LMS (e.g., *What were the biggest strengths? What were the biggest weaknesses?*), 3 questions related to asynchronous DBs (e.g., *What were the biggest strengths? What were the biggest weaknesses? What are suggestions to improve the DBs?*), 1 question related to the voluntary activities (i.e., *What are your opinions of the voluntary activities?*), and 4 general questions related to technology and the ability to contact peers in the class. Each participant was informed that their responses could be used for this study, with each of them consenting with the guarantee of anonymity. Thus, the survey results were collected through a Google Form survey, organized, and each participant was given a pseudonym to protect their identities. Moreover, since all participants' first language is Korean, they were told that they could write their responses in Korean. The hope was that they would feel more comfortable and be able to explain their feelings more deeply if they used their first language. Some of the responses were written in Korean, and for these cases, the researchers initially translated the Korean responses into English. Then, an expert in the field of Education, who is fluent in both Korean and English, verified the translations.

3. Data Analysis

Analysis for this study began after the data had been collected, coded to protect anonymity, and translated into English. Initial analysis began with the four Likert-scale one multiple-choice question. This data was used to determine basic descriptive statistics of mean and standard deviation by using Microsoft Excel (Kaur, Stoltzfus, & Yellapu, 2018). This data gave some initial insights into students' perceptions towards the use of the LMS, collaboration through asynchronous DBs, and the completion of voluntary activities to increase learner-instructor interactions. However, by itself, this numerical data is not enough. As Jansen (2010) asserted, the use of qualitative survey questions differs from quantitative questions as it focuses more on the diversity of the topic within the population rather than the simple numerical distribution. Therefore, to elicit more specific perceptions with deeper meanings, additional analysis of the long response questions was needed.

There was a total of 10 long response questions asked in this survey. To analyze the responses, qualitative methods of thematic and non-mathematical analytical procedures using inductive reasoning were employed. Since participants were asked to share their true thoughts in these questions, including the ability to respond in Korean, it provided the opportunity for the researcher to interpret the learners' words to construct a recognizable reality (Maykut & Morehouse, 1994). This means that all responses were analyzed to determine major categories or themes. As more data was interrupted, relevant information would be placed into the main categories, or a new category would be made. The final step of the analysis was to combine the present and discovered categories to determine the main themes related to the research questions set forth in this project (Merriam, 1998). After the forming of the categories or themes, separate tables were created to organize the main responses of the participants. Then, direct quotations from students' long responses were selected to convey the genuine thoughts and experiences of the learners.

IV. RESULTS AND DISCUSSIONS

Once the students completed the 15-question survey for this study, basic descriptive statistics were used to determine student-reported means and standard deviations to get a general idea of learners' perceptions. Specifically, questions 6, 9, and 10 asked participants to report on their satisfaction toward the use of the LMS, satisfaction toward asynchronous DB activities, and the usability of the LMS's asynchronous DB functions. In addition, the response to the multiple-choice question (i.e., question 14) determined the frequency of voluntary activities completed by each student. Following the analysis of the descriptive statistics, a qualitative analysis of the long-response survey questions was conducted to find themes. It should be noted that participants in this study were encouraged to write as much information as possible for each of the 10 questions. This meant that in some cases, responses had more than one answer. Therefore, the number of responses does not necessarily mean the total number of students. Instead, it represents the total number of times the theme was mentioned. The qualitative analysis yielded the following 3 major themes strengths and weaknesses of the LMS; strengths and challenges of asynchronous DBs; and positive and negative aspects of completing voluntary activities. Below the key ideas from both the descriptive and thematic analyses will be discussed, with specific quotes from the participants' responses cited to enrich the understanding.

1. Descriptive Statistic Results

The results in Table 1 highlight learners' self-reported perceptions towards three of the Likert scale questions on the survey (i.e., questions 6, 9, and 10). The first line of the table indicates that a majority of students were highly satisfied ($M = 5.61$, $SD = 1.05$) with the use of the LMS during this semester. This is because all 28 participants selected 4 or higher (i.e., four = 6; five = 5; six = 11; and seven = 6), so no student reported that they were dissatisfied. In addition, 17 out of 28 (60%) students selected 6 or 7 on the Likert-scale, meaning that there was high satisfaction.

The second and third lines of Table 1 are related to learners' perceived satisfaction and usability of the LMS's asynchronous DB tool. With regards to satisfaction, it was found that participants slightly liked this tool ($M = 4.75$, $SD = 1.21$). There were 3 participants whose responses showed they disliked the DB tool (i.e., two = 1; three = 2). The most selected option was 4 ($n = 10$, 36%), or the neutral option, with the next biggest being 5 ($n = 8$, 29%).

Finally, the reason for the slightly positive mean score was because 7 students selected that they really or very really liked the DB tool (six = 4; seven = 3). Next, in regard to the usability of the LMS asynchronous DB, respondents thought it was usable ($M = 5$, $SD = 1.17$). A total of 26 participants selected 4 or higher (four = 7; five = 10; six = 6; seven = 3), with the majority of participants, 19 out of 28 (68%), selecting 5 or higher.

TABLE 1
Mean and Standard Deviation of Likert Scale Questions

Question Number	Topic of Question	<i>M</i>	<i>SD</i>
Q6	Satisfaction towards Canvas LMS	5.61	1.05
Q9	Satisfaction towards asynchronous DB	4.75	1.21
Q10	Usability of Canvas LMS's asynchronous DB	5	1.17

Next, Table 2 shows the responses to the multiple-choice question. For question 14, respondents were asked to select whether they had completed any voluntary activities throughout the semester. If they had completed one or more of the bonus assignments, they were asked to pick the number that represented how many they had completed. A total of 26 out of 28 students completed at least 1 voluntary activity during this course. The most frequent response was the completion of the maximum five activities ($n = 10$, 36%). The next most frequent answer was the completion of four activities ($n = 6$, 21%), with the frequency of bonus activities completed decreasing numerically (three = 4; two = 3; one = 3; and zero = 2).

TABLE 2
Frequency of Student Involvement in Voluntary Activities

Student	Frequency	Student	Frequency	Student	Frequency	Student	Frequency
S1	3	S8	4	S15	2	S22	1
S2	2	S9	5	S16	2	S23	1
S3	4	S10	5	S17	3	S24	3
S4	5	S11	4	S18	4	S25	4
S5	5	S12	3	S19	5	S26	5
S6	4	S13	5	S20	5	S27	1
S7	5	S14	5	S21	0	S28	0

2. Strengths and Weaknesses of the Canvas LMS

Overall, the total number of positive comments related to the strengths of the LMS was higher than the negative comments about the weaknesses (i.e., 23 positives to 18 negatives). A summary of the categories related to this main theme can be found in Table 3.

TABLE 3
Learner Perceived Strengths and Weaknesses of the LMS

LMS strengths	No.	LMS weaknesses	No.
Multiple functions/activity types	8	System errors	7
Good notification system	6	LMS shortcomings	4
Easily accessible	3	Student overload	3
Good feedback mechanisms	3	Peer communication challenges	2
Good tracking system	2	Other technology limitations	2
Group communication/cooperation	1		
Total number of strengths	23	Total number of weaknesses	18

1) Strengths of the Canvas LMS

An analysis of the long response questions shows consistency with the result of the Likert-scale question about self-reported satisfaction of the LMS. Of note, several responses to question 1 (i.e., opinions about general technology use in this course) brought to light that learners appreciated the new LMS system. As mentioned before, the institution where this study took place updated their e-campus and LMS systems just before the start of the fall semester. This

change was viewed as a major positive because many learners were confused during the spring 2020 semester due to the selection of different LMSs for different courses.

There was no difficulty at all because the activities were done on the e-Learning campus. It was easier to use technology this semester than last semester because all subjects were done on e-Learning campus. I think it would be good to (have this) main technology. (S5)

This standardization was beneficial to both instructors and learners, as once they became familiar with the technology, they could easily transfer their new knowledge and skills to other classes. In addition, the biggest reported strength of the LMS was the multiple functions that allowed for a diversity of activities to be completed. Specifically, the all-in-one nature of the LMS was identified as a way for all content to be passed out and assignments submitted. While another learner highlighted how the new variety of options really increased their enjoyment of the class.

It was convenient to listen to lectures, submit assignments, and take exams on one site. (S10)

Thanks to Canvas, now there are various active systems such as quizzes and discussion boards! Those were attractive to me and made the class more fun in my opinion. (S26)

Since the primary motivation for educators to use the LMS was to increase the number of interactions between students and the content, it is important that learners know how to find the materials. However, in addition to the increased functions and diversification of activities, respondents also noted the strength of a good notification system. Specifically, because this course required students to be active participants in watching lecture videos and completing different weekly assignments, many learners found the LMS notification systems (i.e., to-do lists, email notifications, and push notifications to selected devices) to be helpful in knowing due dates and getting reminders. Furthermore, it was noted that the interactions between students and instructors could be increased due to the notification and feedback systems. Finally, since many students took several classes at one time, one participant mentioned that the LMS's calendar function was especially useful. This is because they were able to better organize and know which assignments were due for which class and at what time.

It was convenient to know the assignment or notice uploaded by the professor through notification. It relieves the hassle of being frequently checked. (S17)

I liked the fact that I could quickly check the notice and immediately exchange feedback with the professor. (S6)

Nice calendar system - It was nice to check things I have to do until when at a glance. (S26)

As seen above, the LMS system was not only able to disseminate the course contents, but it also provided opportunities for learners to have increased interactions with their professors. One way this occurred was through the LMS messaging system. This allowed students to send a message whenever they had questions. Another way that teachers and learners could interact was through assignment feedback. This included an automated tracking system for the completion of watching videos and tracking grades that allowed students to quickly see their attendance and scores for the class. Added to this, assignment comments could be left by instructors in a timely fashion to inform students of any weaknesses. The result was an increase in the number of interactions between learners, the content, and their instructor. However, there were also weaknesses identified about the LMS.

2) Weaknesses of the Canvas LMS

While there were more positive comments related to the LMS found in this study, this does not mean that the system is perfect. By far, the most common response related to the weaknesses of the LMS was related to system errors. In particular, there were two common issues. The first is related to notification failures. It was reported that, at times, the system did not ring or go off when an alarm was set. It was suggested by one student that this problem could be the result of the differences between the PC and cell phone applications. The second common issue was

related to errors when trying to upload files. According to one respondent, this happened “often” and would lead to frustration as many students were unable to submit their files before the deadline due to file size or type errors. A specific example of this sort of technological issue came from a student who had problems uploading an audio file to complete their assignment. Both issues meant that students were either unable to interact with their instructor (i.e., no file was submitted) or there was delayed communication with peers (i.e., others had to wait to see the materials).

I also had some errors recording in Canvas so I had to record my voice with my phone and then send the file to the discussion board or wherever place I had to upload those. (S26)

There is not as much system as PC in cell phone application. (S13)

In addition to the challenges of system errors, respondents also identified different deficiencies with the Canvas LMS program. As already mentioned, many students these days tend to prefer using their mobile phone to a PC or laptop. However, it was reported that the functionality of the two devices was not the same. Another issue was inconsistencies with the interface. Specifically, one participant mentioned how the basic interface of the system could be modified by the professor, which led to confusion. Moreover, it was suggested that some of the functions of the systems could be improved. One example was a suggestion for the addition of a more cooperative group-chatting system. While another student suggested that the rubric system was buried too deep within the grades. To overcome this challenge, it was recommended that the rubric be placed at the top of the assignment as a system default. Finally, some learners found it difficult to maintain concentration during activities because many instructors would have daily or weekly posts. These deficiencies resulted in students becoming frustrated by the inability to interact with their instructor or peers as they wanted to.

The biggest weakness is that the technology itself can be modified by the professor. It made me confused about what is where. Also, it is good that we can make groups, but it was hard to get into our project because we cannot make chats in our grouping. (S27)

We have to spend time searching for rubrics. I think the rubric system should default to the top of the page so that students can check more easily. (S26)

The final barrier mentioned by participants in this study reflected the challenges they experienced due to technology-specific issues. The first issue reported was related to the need to have strong and stable Wi-Fi or enough data to be able to access all the materials, especially the video lectures, which were often large files. While the second issue was related to the frustration that students could have when they attempted to upload their assignment files during peak times. This was related to the fact that even though students knew an assignment deadline was quickly approaching, delays or errors were more likely when many people were on the university’s system at the same time. This barrier was many in response to submitting assignments, so any difficulties that learners encountered meant that they were unable to interact with the instructor of the course.

Without Wi-Fi or data, it impossible to listen to lectures and submit assignments. (Ss9)

Sometimes it can be difficult to use the system when there are many students at once. Therefore, it may be difficult to submit the assignment even though the assignment submission time is imminent. (S10)

3. Strengths and Challenges of the Discussion Board Activities

In total, the number of positive comments related to the strengths of the asynchronous DB activities was slightly higher than the negative comments about the challenges (i.e., 23 positives to 20 negatives). A list of the major themes can be found in Table 4.

TABLE 4
Learner Perceived Strengths and Challenges of the Discussion Board Activities

DB activity strengths	No.	DB activity challenges	No.
Sharing ideas	15	Dependence on teammates	8
		Challenges with Canvas interface	7
		Fear of peer judgement	2
Communicating during an online class	6	Student misunderstanding	1
Identifying team members	2	Unfair scoring	1
		English language challenges	1
Total number of strengths	23	Total number of challenges	20

1) Strengths of the Discussion Board Activities

An examination of the responses found that the majority of participant comments focused on how the asynchronous DBs could be used to share their ideas with their peers. More specifically, a total of 9 comments were related to the biggest strength of an online DB was having the ability to share a variety of differing opinions with their peers. This was so important because it allowed learners to not only respond to one another but that students could also benefit from reading or hearing ideas they had previously never considered. Added to this, the DB activities were reported to be a great way to communicate smoothly. In particular, it was suggested that in addition to just giving one's opinions, learners were able to ask questions to gather more information to continue interacting. A final way that the DB activities helped learners share ideas was through increased opportunities to read and reread posts to make sure that ideas were fully understood.

I think the biggest advantage is that we can exchange various opinions through the discussion board. I was able to learn about things that I didn't think of. (S17)

It was good to communicate smoothly, such as establishing opinions and questioning and answering questions. (S15)

It was good that I could read various opinions clearly and think continuously while reading them several times. (S25)

In addition to the overwhelming positive reactions toward sharing ideas, several comments also highlighted that participants in this study felt that the DB activities presented them with a unique opportunity to connect with their classmates despite taking an online class due to the pandemic. This was nicely summed up by student 5, who wrote,

Because it was an online class, there was almost no way to contact my classmates, so it was good to contact them through discussion. And it was very helpful to have a discussion because I think it is important to listen to the opinions of people who have different opinions from me. (S5)

This general idea was expanded on by student 27, who suggested that the DB activities not only meant that students would interact with one another, but that the professor could also leave comments leading to greater understanding. Student 27 stated,

I think it was a great way to have interactions with my classmates. I especially like the part classmates or the professor leaving comments or questions about my thoughts! It is because those comments made me think more creatively and have broader horizons! (S27)

A final strength of the DB was identified as the ability to easily contact team members. Again, it should be noted that the participants in this study were freshmen students who did not have the opportunity to meet their classmates face-to-face due to the social distancing measures. Therefore, one of the first DB activities was for students to share their contact information. The result of this activity was that learners had a method to contact their team members

very quickly and easily. In addition, the instructor of this course also made it a point to use random groups. This allowed learners in the class to work with a variety of peers. Ultimately, the contact list allowed participants to easily connect with their classmates to complete the DB activities. Moreover, it was reported in cases where one learner had difficulties understanding the task, they could contact their group members to overcome the problem and find a resolution faster.

It was useful that I can check who I am working with a contact faster if we had a problem. (S28)

2) Challenges of Completing the Discussion Board Activities

A look into the perceived challenges of the DB activities by the participants in this study yielded a more diverse group of reasonings. The most common response was difficulties that came about from the learner's dependency on their peers to complete certain DB activities. Specifically, two students noted that they felt they earned a higher score and enjoyed the activities more based on the random team member they were assigned. Additionally, the lack of comments was mentioned by three respondents. Specifically, these learners felt a sense of inconvenience due to their peers being unmotivated or unreliable with their postings. For example, it was suggested that certain activities were unable to progress because not many comments were made or certain team members did not make any posts. This varying level of activeness led to some students feeling like they were prevented from posting as much as they would have liked.

It was not good when it was used as a task that all team members had to participate in. If one team member did not participate, it was very inconvenient to do the assignment because it was not progressing. (S17)

Different degrees of activeness - Some classmates were active enough to have a real conversation but some classmates weren't replying back so it was hard to continue the conversation. (S27)

In addition to the learners' need for motivated and reliable peers, respondents in this study also suggested that there were additional challenges trying to use the Canvas discussion board interface. One initial difficulty was reported to be related to the fact that it was hard to use the system because the technology was unfamiliar to them. However, over time, this did become easier. In addition, three respondents mentioned that their biggest challenge related to the system was the fact that they were unable to see their peers' posts until they had made their own first post. This style of posting management was selected by the instructor. In this case, this option was selected to encourage learners to have their own individual thoughts before seeing their peers' posts. Yet, participants reported this as a barrier because they wanted to know what others had put to keep the discussion going. The final challenge cited by the participants in this study was related to a lack of smooth communication due to the LMS announcement/posting system. Unlike the announcements and direct messages between learners and the instructor that was mentioned before, the alert system for DB posts was not as beneficial. This displeasure was the result of no specific alert or message being sent when a member of the team posted to the DB. Instead, it was up to the individual student to continuously check the DB to see if anyone from their team had posted. This caused frustration and confusion for the learners in this study, and in some cases, led to a smaller number of interactions.

It was hard that the technology itself was not familiar, and most of the discussion board was opened only for those who wrote a comment which was hard for me that I cannot see others comments and see how this discussion is going on. (S28)

The weakness of the discussion board is that it is hard to distinguish. I think it is also a weak point that we cannot check the announcement of the discussion team right away. (S8)

Another challenge mentioned by respondents was related to the personal feelings of fear that they felt due to being judged by others. These feelings of fear were the result of not feeling confident that they could accurately write down their thoughts in a meaningful and coherent way. Especially noteworthy was a comment from student 10, who pointed

out that their specific fears stemmed from not wanting to make writing mistakes in front of their peers. Student 10 suggested, “If I think that everyone will assess my writing, it is a little difficult to write my thoughts freely.” Stemming from this fear, feelings of shame were also mentioned as the discussion board was seen as a public place where exposing their thoughts would open the learner up to judgement from their peers. Student 18 summed this up in their comment, “It was ashamed to share opinions in public places or to expose my assignments.”

The final challenges were specific comments made by individual students related to other difficulties they experienced. The first difficulty experienced was related to uncertainty about how to proceed with a DB activity when their peer posted an incorrect message. More specifically, how if a classmate makes a post that either has wrong information or details not related to the topic, it can make a simple activity become more difficult. The second difficulty focused on how the scoring for DB activities may not accurately reflect the efforts of the individuals. In particular, one participant mentioned they felt that a group grade for an activity was not ideal. This is because they thought it was unfair that their score could be reduced because another student was not active or did something wrong. Furthermore, it was also thought to be unfair that a student who did very little work would earn the same amount of credit as a peer who did more work. The third difficulty highlighted that at least one student had challenges completing the DB activities in their second language.

If another classmate posts a wrong message, it may be hard to tell if what I did was wrong. (S3)

The weakness of the discussion is that discussion is related to my score as a task, but my score can also be deducted because there are people who don't participate in the discussion very hard. (S5)

4. Positives and Negatives of the Voluntary Activities

A check of responses related to the long response question asking participants to share their thoughts related to any perceived pros or cons of completing voluntary activities produced slightly more positive than negative comments (i.e., 15 positives to 12 negatives). A summary of the major themes can be found in Table 5.

TABLE 5
Learner Perceived Pros and Cons of Completing Voluntary Activities

Voluntary activity pros	No.	Voluntary activity cons	No.
Chance for additional practice	4	High workload and feelings of pressure or	8
Fun or enjoyable	4	burden to participate	
Variety of activities/skills	3	Too time consuming	1
Chance to score additional points	2	Hard to contact peers	1
Power of choice	1	Need for written directions	1
Feedback from the professor	1	Inappropriate for small classes	1
Total number of pros	15	Total number of cons	13

1) Pros of Completing Voluntary Activities

The most common response to why completing the voluntary or bonus activities during this class was related to the fact that they were fun and gave learners additional opportunities to practice. Importantly, there were a total of 10 voluntary activities (see Appendix 1) that each student could complete throughout the semester, with each student given the opportunity to complete a maximum of 5 activities. This allowed learners to select the activities that they felt would be most beneficial. Often, their selections were based on which skills the activity would focus on, but also, respondents mentioned that they could also pick topics that were interesting to them. Therefore, while they were doing extra work, the fun and enjoyment that they had meant that some did not feel an extra sense of burden. Moreover, each student was able to select the specific skill they felt would have the greatest benefit to them.

Bonus assignment was fun because I could write or present about various interesting topics. Also, there was no burden because I only had to do 5 of the 10 bonus assignments during the semester. (S5)

I think I was able to improve my writing skills in addition to my speaking ability through bonus activities. Especially in bonus activities, there were many different topics, so the activities of expressing English

while enjoying them came to be fun. (S6)

As a result of having the opportunity to complete up to 5 bonus activities, learners not only had fun, but they also commented that the variety of activities allowed them to develop particular skills. Interestingly, two respondents highlighted that the ability to work by themselves, with partners, or with a team was beneficial. This is because they felt like they had more choices to develop targeted skills, especially their speaking and writing skills. Additionally, since the voluntary activities expanded the topics from the textbook to include more current events and cultural discussions, it was suggested that learners could develop a wider breadth of knowledge. Finally, along these same lines, the power of choice became important to some participants. In particular, while there was some annoyance about completing extra work, the voluntary activities acted as a form of 'self-studying', which allowed individual learners to target the specific skills they most needed to practice and improve.

Bonus activities was interesting because there were various activities such as speaking, writing, discussion, filming, and recording. (S7)

Interesting topics depending on timeliness - It was fun to know about American Thanksgiving culture and Christmas memories etc. The spectrum of the topic of the bonus activity was wide like talking about LGBTQ or introducing classmates, so I enjoyed learning and knowing and sharing thoughts about them.

Those bonus activities gave me a lot of instructions, tips, and lessons! (S27)

There were times when bonus activities were annoying. But I think I need a bonus activity to study alone.

Bonus activities helped me study on my own. (S20)

The final comments related to the pros of completing voluntary activities during this semester were related to how they allowed for more interaction between the learner and the instructor. Two respondents mentioned how the extra effort was a way to show the teacher that they were dedicated to the class. As a result of this dedication, these learners were pleased to know that their efforts were recognized by the instructor through the accumulation of additional points, which would help them get a higher final score in the class. The second response was related to the tangible benefit of students getting additional feedback from the teacher. Specifically, as mentioned above, these activities could allow for increased emphasis on skills such as writing and speaking. Thus, taking part in these bonus activities not only allowed for more chances to receive feedback from the professor, but also, by limiting the maximum number of bonus activities to 5, the instructor would not be overloaded with additional grading. This comprehensive feedback was appreciated as it gave tips on how learners could overcome their biggest deficiencies.

It was good to be able to score additional points by the additional participation of individuals. But when I had to do bonus activity, I felt burdened because of the large amount of homework. (S18)

More opportunities to get professor's feedback—I really liked the feedback from the professor as those had a lot of tips or suggestions to improve my English skills as the professor gave very detailed feedback for each student! (S27)

2) Cons of Completing Voluntary Activities

While Table 2 highlights that a majority of participants ($n = 20$ out of 26) completed 3 or more voluntary activities, and the above section shows that there were several pros to completing these tasks, several respondents noted their displeasure with the bonus activities. The overwhelming reason for this displeasure was the feelings of pressure or large burden that learners felt to complete the extra work. Notably, this pressure or burden was reported to come from concerns of students who believed they needed to complete the extra tasks despite them not being mandatory. It is also noteworthy that this finding is at odds with the above beliefs that having to complete only 5 out of 10 possible tasks was enjoyable and not a burden. Refuting these beliefs was the suggestion that the completion of 5 total activities was a burden because the amount of time needed to complete the voluntary activity was similar to a homework assignment. Thus, it was pointed out that completing the extra tasks could be too time-consuming for learners. Added to this, it was pointed out that learners could feel pressure related to time limitations. This is related to the fact that

many learners may already be struggling with completing their homework for this class or other courses they are enrolled in; the completion of bonus activities may not be possible. Finally, as mentioned earlier, some of the activities required learners to work with their peers. As a result, it was mentioned that another challenge came from needing to contact peers to complete the voluntary activities in a timely manner. However, in the same comment, the student noted that while it was a big challenge at first, they ultimately were pleased that they could interact more with their peers.

I was a little concerned because I felt like I had something to do, even though this semester's bonus activity was not mandatory. (S25)

However, it was a burden to fill five during the semester, and bonus activities take time as much as the homework. (S9)

I wanted to participate, but I couldn't because I had too many basic assignments and too many other classes assignment. (S17)

It was difficult to contact and find a partner for a bonus activity, but it was good chance to contact many of my classmates. (S10)

In addition, to the displeasure experienced by some participants caused by the pressure or burden of completing voluntary activities, there were two additional points made by participants related to the implementation of voluntary activities within the classes. The first was related to the way in which directions were dispersed for each activity. Since this was an online class, the main instructions for each activity were provided in the lecture video. Then, a brief description of the assignment was posted on the LMS. However, one respondent mentioned that it would be very beneficial for the instructor to include a more detailed written version. This could be because some learners' reading skills are higher than their listening skills, thus, giving them a typed version would result in greater understanding. The second comment related to the implementation of voluntary activities was related to the size of the class. Specifically, it was suggested that bonus tasks could be very beneficial for larger classes, as this would help to differentiate between students with the same score. However, it was also noted that the voluntary activities were less appropriate for smaller classes.

I hope that the notice will be announced accurately in text, not in explanation through the video. (S13)

It may be good at class with many people and to use it as a way to give scores to students who have the same scores, but I think that it isn't appropriate for class with small people (We only had 9 students this time.). (S28)

5. Discussions and Future Implications

The results of this study attempted to shed some light on the changes that occurred during the second full semester of ERT due to the COVID-19 pandemic. Specifically, it relied on the responses of freshmen university students in a first-year general English course to share their perceptions of how the use of the school's LMS, different ICT tools, and collaborative activities could increase the number of interactions and their enjoyment during the course. To accomplish this, the responses to four student-rated Likert-scale questions provided initial numerical values to start to understand learner' satisfaction, the usability of the ICT tools, and the frequency of voluntary activity participation. However, to understand this initial numerical data more clearly, participant responses to 10 long response questions were analyzed to develop themes/categories, and learner quotes were utilized to add depth to this research. The overarching finding of this study is that learners are satisfied with the use of an LMS, asynchronous discussion boards, and voluntary activities to help increase the number of interactions between learners with the content, the instructor, and their peers. These findings partially contradict studies completed during the spring semester of 2020, which indicated that learners struggled with understanding the content of the lessons in a virtual classroom (Mahyoob, 2020), and due to these negative experiences, many students adopted strong avoidance attitudes toward their online lessons (Nartiningrum & Nugroho, 2020). Instead, the participants in this study fall more in line with the study of Aguilera-Hermida (2020), which noted that as students gained a greater understanding of using an LMS or different ICT tools,

they would build more knowledge and ability that could result in increased interactions. Therefore, while there are still negatives or cons that must be considered, the results of this study have implications for both future ERT and for the return to traditional face-to-face classes.

The first implication of this study is that the use of an LMS needs to be integrated and commonplace in all classrooms (i.e., both traditional face-to-face and virtual classrooms), and the functionality of these systems needs to be constantly improved. As Cavus et al. (2021) noted, this sort of ICT tool can promote social engagement and increase student satisfaction and enjoyment, which was confirmed in this study. More specifically, the findings of this study indicate that the LMS can help students interact with the content of the course. Yet, another important function of the LMS is the way that it can help connect learners with their peers (e.g., a contact list), while the LMS can also be the catalyst to organize CL opportunities for students (e.g., asynchronous DBs or voluntary activities). Within the context of Korea, a nation that emphasizes the connection of its citizens through technology, the implementation of an LMS could easily be accepted as part of a ‘new’ culturally agreed upon learning system or standard (Cavus et al., 2021). Thus, with the likeliest outcome being that an LMS becomes the standard in Korea, it is important for educators and administrators to continue to use and improve the current systems. For instructors, the experience and technical knowledge that they gained through the pandemic must continue to be utilized. This means that as classes return to a traditional face-to-face model, instructors must continue to use LMSs to expose students to the content, organize CL activities, and provide feedback in this digital age. More specifically, based on the results of this study, the dispersal of class materials and communication between the instructor and the learners or between the students and their peers can be enhanced with the LMS. This can include class announcements, assignment reminders, feedback for completed assignments or tasks, organization of groups, and communication between team members. To accomplish this goal, continued efforts by the administration are needed. For example, during the pandemic, institutions invested time, energy, and money into improving the hardware and software of their LMSs. This investment into the LMS needs to continue and potentially be increased. Furthermore, additional resources and efforts need to be made to help train instructors to use the LMSs more effectively and efficiently. Continued resources should be set aside to maintain high levels of technological understanding to ensure that the teaching staff is ready for any potential future emergency situations. However, as more blended learning practices enter the traditional face-to-face classroom, additional technology support will be very beneficial. Lastly, the final group that could benefit from additional technology training is the students themselves. This can include basic tutorials to explain the different functions of the institution’s chosen LMS, or as was noted in this study, attempts to improve the functionality of mobile or tablet applications could greatly benefit learners. To accomplish this goal, administrators may need to invest more into premium versions of applications to open access to already existing options, or LMS companies may need to make improvements to their applications to meet the needs of today’s digital learners. To accomplish this goal, administrators may need to invest more money into premium versions of applications to open access to already existing options, or LMS companies may need to make improvements to their applications to meet the needs of today’s digital learners. Making these improvements will help increase the number of student interactions, regardless of if they are attending a virtual or face-to-face classroom.

The second implication of this study is that asynchronous DBs can increase interactions between students, especially regarding sharing their opinions, but more time and effort are needed to organize and motivate students. The results of this study confirmed that of Goh and Wen (2021), who suggested that the use of this ICT tool and activity can increase interactions and lead to a greater sense of community. For instance, the respondents from this study found that they could improve their own ideas and gain new perspectives by talking to other students. This is important for all university courses, but for a general English course in the Korean context, it is very important. This is because many second-language learners in Korea have not had many opportunities to develop their skills in a communicative way. Thus, by increasing the number of peer interactions through collaborative activities, learners will increase the likelihood that their English skills will be improved. For future emergency remote classes, this research emphasizes that asynchronous DB activities need to be implemented as they are a way to increase the number of interactions between learners and their classmates. In addition, within the specific context of this study, the results also show that asynchronous DBs can be utilized in face-to-face classes to help build a sense of community. This is because first-year students are new to the campus and can face difficulties meeting new people. Thus, instructors should initially use randomized groups and very basic topics to encourage learners to get to know one another and

build their confidence. Then, as the semester goes on, it will be important that teachers evaluate and design groups that have similar studying styles. The reason for this is that many participants in this study had difficulties due to unmotivated and unreliable teammates. Therefore, by creating groups of similar minded students or giving students a choice to select their own group members, instructors will be able to maximize the benefits that the asynchronous DB activities can have for both ERT and traditional face-to-face classes. Moreover, learners can benefit from collaborating with their peers, who could have different opinions or skills than themselves. These collaborative efforts can result in students improving their English language skills, especially their writing or speaking skills.

The final implication of this study is that voluntary activities can greatly benefit learners as they are employed effectively and efficiently. The results of this study confirm those of Ratcliff et al. (2021) because a majority of participants completed 3 to 5 bonus tasks throughout the semester, and there were more positive than negative comments. In particular, this study found that these bonus activities could be fun for students while also giving them more chances to practice and improve their English language skills, with targeted feedback from the instructor. Moreover, several respondents from this study mentioned that the inclusion of voluntary activities improved their opinion of the class because they were given the opportunity to get a higher score. This means that in the future, instructors can consider implementing voluntary activities during ERT situations to not only differentiate the final scores of the students but also increase the number of interactions through their feedback. This is especially important for students who are interested in targeting skills such as speaking, which may be limited due to the class not being face-to-face. Furthermore, in face-to-face classes that have a grading curve, the use of voluntary activities could help to differentiate the final grades. However, it was also noteworthy that one respondent in this study also confirmed the results of Harrison et al. (2011). Specifically, the use of bonus tasks during ERT should be used less in smaller classes. Therefore, it is recommended that a small number of voluntary activities are used in a small class. The reason for this is it will lessen the burden of completing so many extra tasks while giving learners equal opportunities to enhance their skills. Next, as classes are returned to a traditional face-to-face modality, voluntary activities can still be implemented. In accordance with Alley (2011), this study's results highlight the fact that voluntary activities in language courses are extremely valuable to students because they target specific skills in fun and creative ways. As a result, it is recommended that instructors continue to develop bonus tasks that expand textbook topics to incorporate exciting and/or current topics that expand learners' knowledge of Western cultures.

V. CONCLUSION

In the end, the goal of this study was to examine students' perceptions towards attempts to increase the number of interactions in ERT online courses caused by the COVID-19 pandemic using an LMS, ICT tools, and CL interactions. The results of this project reaffirmed several of the individual key findings from prior studies. However, it also built upon them by combining information related to the use of an LMS, asynchronous discussion boards, and voluntary activities during ERT. In doing so, it was able to consider all three major interactions within a classroom (i.e., learner-content, learner-instructor, and learner-learner). To that end, within this specific context of a general English course at a private Korean university, it found that 1. the LMS is a highly satisfactory system that allows students to know the contents of the course and communicate with their instructor and peers; 2. Asynchronous DBs present issues based on the motivation and reliable of teammates but are slightly more satisfactory because they ultimately provide valuable opportunities for interaction-starved students to communicate and learn from their peers while also getting feedback from their instructors; 3. Voluntary activities add some burden to learners who feel pressure to complete the activities, but learners are encouraged to participate when the topics are fresh and enjoyable, leading to increased opportunities to improve their target skills and increased interactions with their instructors through more regular and detailed feedback. Yet, this research project was not without its limitations. First, the number of participants was relatively small. Thus, while this study was able to gather detailed information from participants who were motivated by the chance to give their true thoughts rather than increasing their scores, future research should investigate whether the findings of this study are true with a larger and more diverse sample. Second, since this study was formed mainly from a survey that utilized descriptive statistics and long response answers, additional research that targets quantitative measures could be beneficial. Finally, this study specifically focused on the fall semester during a global

pandemic. Therefore, more information that targets data collected during 2021 could help to create a fuller picture of the changes that occurred throughout the entire pandemic, which could yield important ERT theories and practices that could be utilized in future emergency situations. Yet, more importantly, as courses return to face-to-face teaching, it will be important to test the findings of this paper in a more traditional classroom. Doing so will be invaluable to instructors and administrators who can determine how the use of LMS, ICT tools, and collaborative activities during the fall semester of the 2020 pandemic can improve future courses.

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APPENDIX 1

List of Voluntary Activities

Activity Order	Targeted Skill	How to Meet + Completion Modality	Main Topic–Brief Activity Overview
1	Speaking Listening	Part 1 – Zoom/Google Meet Part 2 – Submit Audio/Video File	Meeting Classmate – minimum of 3 classmates to meet and introduce each other + Audio/Video File to Summarize what you learned
2	Speaking Listening	Part 1 – Zoom/Google Meet Part 2 – Submit Audio/Video File	Talents & Habits – minimum of 3 classmates to introduce personal talents and habits + Video File to Summarize what you learned
3	Speaking Listening	Zoom or Google Meet Submit Group File of Conversation	Travel – minimum of 3 classmates to talk about past and future travels + Video File of Conversation
4	Writing	Submit Word File	Chuseok – write a structured paragraph about what you and your family do or did during Korean Thanksgiving
5	Drawing Speaking	Part 1 – Draw a Picture Part 2 – Submit a Video File	MBTI/Personality – draw an image that represents your personality & explain it to me in the video file
6	Speaking	Submit Video File	My Precision Item – practice showing a visual aid while taking time to describe your item and its history
7	Speaking Listening	Part 1 – Watch the YouTube Video Part 2 – Submit Your Video	YouTube Response Video – watch the YouTube video – summarize the main ideas & express 3 opinions
8	Speaking	Submit Video File	Your Little Story – practice storytelling by sharing a personal life experience – with no notes
9	Speaking Listening	Part 1 – Watch My Bonus Video Part – Submit Audio/Video File	American Thanksgiving – watch my bonus video + give your reactions/opinions about what you saw
10	Listening Writing	Part 1 – Watch Partner’s Introduction Video Part 2 – Fill out the Audience Participation Form	Self-Introduction Audience Practice – watch your partner’s Homework 1 video – their self-introduction + fill out the Audience Participation from that will be used for the final exam

APPENDIX 2

List of Questions for the Survey

1. Please explain in as much detail as possible, what were your Opinions about using Technology in College English 2?
2. Please explain in as much details as possible, what are some Suggestions you would have to Improve the Technology after taking the College English 2?
3. How easy or difficult would you say it was to Contact your classmates during College English 2?
4. Please explain in as much detail as possible, what were your Opinions about being able to Contact your classmates during the College English 2 course?
5. Please explain in as much details as possible, what are some Suggestions you would have to Improve the ability to Contact your classmates after taking College English 2?
6. After completing the entire 2020 Fall Semester using the LMS, how Satisfied were you with the LMS.
7. Please write in as much detail as possible, explain what you think are the biggest Strengths of the LMS.
8. Please write in as much detail as possible, explain what you think are the biggest Weaknesses of the LMS.

9. In College English 2 (CE2), we completed several discussion board activities. I am curious how Difficult did you find it to Use the discussion board (1 = Very Hard - it was a big struggle to use this system while 7 = Very Easy - it was simple to understand exactly how to use the Discussion Board)
10. In College English 2 (CE2), we completed several discussion board activities. I am curious what was your Overall Satisfaction level with the discussion board (1 = Extreme Dislike - I did not enjoy using the Discussion Board at all to 7 = Extreme Like - I really enjoyed using the Discussion Board this semester - so use it again in future classes).
11. Please write in as much detail as possible, explain what you think are the biggest Strengths of the Discussion Board activities.
12. Please write in as much detail as possible, explain what you think are the biggest Weaknesses of the Discussion Board activities.
13. Please write in as much detail as possible, explain what are your Suggestions to improve the Discussion Board activities.
14. Did you complete any Bonus Activities during the College English 2 (CE2) semester? If you did, please select how many you did (i.e., 0; 1; 2; 3; 4; 5).
15. Please write as much as possible, what were your Opinions about the Bonus Activities in the College English 2 course?