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Acceptance and Use of Video Conferencing for Teaching in Covid-19 Pandemic: An Empirical Study in Vietnam

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Abstract

The Coronavirus disease outbreak of 2019 (COVID-19) has fundamentally altered the nature of learning at all levels, from university to primary school. In Vietnam, continual learning is ensured through the use of video conferencing applications. Video conferencing is a teaching tool that is used to facilitate communication and engagement between professors and students during an epidemic. The study employs a unified theory of acceptance and use of technology (UTAUT) to ascertain the elements that influenced the adoption of video conferencing for online training in Vietnam during the COVID-19 pandemic. A survey of 203 instructors who have used video conferencing for instruction during the COVID-19 epidemic was conducted and evaluated using a structural equation model (SEM). The results indicate that significant elements influencing the use of video conferencing for teaching during Covid-19 include effort expectancy, habit, hedonic motivation, and behavioral intention to use, which together account for 59 percent of video conferencing for teaching usage (R^2=0.59).

Keywords: video conferencing, UTAUT2, teacher video conferencing adoption

1. Introduction

COVID-19 will touch over 1.6 billion learners in 190 nations worldwide by 2020, according to United Nations data (Brief, 2020). In Vietnam, schools at all levels must be closed during the COVID-19 outbreak in accordance with Directive No. 16/CT-TTg on the implementation of social distancing. Dispatch No. 1247/BGDDT-GDCTHSSV on enhancing the safety of preschool children, students during their study over the Internet on March 14, 2020 to implement solutions to ensure the continuous learning of students. On March 23, 2020, at the college and university level, Dispatch No. 988/BGDDT-GDDH was issued regarding ensuring the quality of distant learning during the covid-19 outbreak. Next, on March 25, 2020, the Ministry of Education and Training issued directives, including Dispatch No.

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1061/BGDDT-GDTrH on Internet and Television Instruction for General Education Institutions and Institutions During the Period of Student Leave from School Due to COVID-19 in the 2019-2020 school year.

Adapting teaching and learning practices in the midst of the COVID-19 pandemic is a significant problem for Vietnam's education sector. However, this is an excellent opportunity to further enhance online learning approaches. One extensively used technique is to educate using conference technologies in conjunction with learning management systems (LMS). In Vietnam, video conferencing tools such as Zoom, Google Meet, Microsoft Teams, and Skype are widely used. This also happened in Malaysia, Thailand and Iran (Hashim, 2006; Rahimi & Bigdeli, 2014). Throughout covid-19, this was a frequently employed method of instruction. According to Townsend, A.M., Demarie, S.M., & Hendrickson, A. R. (2001) in turns out that the student achieves good results when using the conference system (Townsend, Demarie, & Hendrickson, 2001). Another study by MacLaughlin, Supemaw & howard (2004) found that learning through conferences gives the same academic performance as traditional learning (MacLaughlin, Supemaw, & Howard, 2004). Additionally, numerous research has been conducted on students' intended behavior when it comes to video conferencing in order to ascertain the elements that influenced their use of this instrument during the Covid-19 pandemic ((Bui, Luong, Nguyen, Nguyen, & Ngo, 2020); (Ngo, Nguyen, & Tran, 2020); (Pham & Ho, 2020); (Fatani, 2020); (Hiroyuki, O., 2021); (Nguyen, T. N. M., & Nguyen, P. H., 2021); Nguyen, H. U. N., & Duong, L. N. T. (2021)). However, studies on the intended behavior and usage of video conferencing for teaching of instructors are of little notice at various school levels.

In this study, the author focuses on the Unified Theory of Acceptance and Use of Technology (UTAUT) ((Venkatesh, Morris, Davis, & Davis, 2003); (Venkatesh, Thong, & Xu, 2012)) to discover the elements that impact the intention and usage behavior of teachers in employing the video conferencing system to educate during the COVID-19 pandemic. The subjects and scope of inquiry are instructors at different levels of education who have utilized video conferencing technology to educate during the COVID-19 pandemic in Vietnam.

2. Literature review

2.1 Video Conferencing

Video conferences, according to the Oxford Dictionary, are "meetings in which persons from diverse locations communicate via voice and video." According to the United Nations Development Programme, free video conferencing tools such as Zoom, Google Meet, Microsoft Teams, and Skype were heavily used during the COVID-19 crisis. By utilizing video conferencing, businesses may increase their productivity, optimize and expedite decision-making, and reduce customer and employee travel costs associated with communication, exchange, and meeting procedures. Video conferencing in education enables continuous instruction throughout the COVID-19 cycle and lays the groundwork for the creation of online teaching activities in remote learning situations ((Fatani, 2020); (Sahi, Mishra, & Singh, 2020)).

2.2 Research model

Information systems research has extensively examined new technology adoption. Trend-conscious conduct was identified using the Psychosocial Perspective on Theory of Reasoned Action (TRA) ((Azjen, 1980); (Fishbein & Ajzen, 1977)). Ajzen created the Theory of Planned Behavior (TPB) by adding a component of perceived behavioral control to the TRA theory ((Ajzen, 1985);(Ajzen, 2002)). TPB urges the researcher to look at how consumers' social sensitivity affects their decision to utilize an online system (Crespo & del Bosque, 2008). In order to explain human behavior linked to information technology adoption, the Technology Acceptance Model (TAM) builds on the TRA's theoretical underpinnings ((Davis, 1989); (Davis, 1993)). The IDT detailed how people assimilate technical advancements (Rogers, 1995). Venkatesh et al. created the UTAUT to explain information system users' intentions and behavior. A combination of the TPB and TAM models, IDT, the Motivation Model (MM) (Davis, Bagozzi, & Warshaw, 1992), the Model of Personal Computer Use (MPCU) (Thompson, Higgins, & Howell, 1991), and Social Cognitive Theory were used to construct UTAUT (SCT) (Compeau & Higgins, 1995). Performance expectancy, effort expectancy, social influence, and facilitating condition were used to produce UTAUT. Venkatesh et al. later introduced UTAUT2, which adds hedonic motivation, price value, and habit to the original UTAUT concepts. Then UTAUT2 includes demographics like age, gender, and experience.

2.3 Hypotheses

Performance Expectancy (PE) is described as an individual's belief that by implementing a specific system, they will be able to achieve competitive advantages at work (Venkatesh et al., 2003). Perceived usefulness in TAM, extrinsic motivation in MM, job fit in MPCU, and result expectation in SCT are the five constructs that make up various models of performance expectancy. The teacher believed that video conferencing would boost their performance and that individual students would be happier with it. As a result, the subsequent hypothesis has been proposed

Hypothesis 1: PE has a beneficial effect on the intention to use video conferencing (VCI).

Effort Expectancy (EE) is described as the ease with which information systems can be combined (Venkatesh et al., 2003). According to Amoaka (2004), the effort is anticipated to determine the end-intention users to use the information system (Amoako-Gyampah & Salam, 2004). Teachers' decisions on whether or not to use video conferencing are influenced by the system's expected effort. The following is the H2 hypothesis:

Hypothesis 2: EE has a beneficial effect on a person's intention to engage in video conferencing (VCI).

The degree to which an individual is aware that other influential individuals believe the new method is better for work is referred to as social influence (SI) (Venkatesh et al., 2003). The subject norm in TAM, social element in MPCU, and image in IDT are all examples of

social influence as a direct predictor of behavioral intention. Teachers would be influenced by the social aspects of video conferencing in deciding whether or not to use it. As a result, it proposes:

Hypothesis 3: SI has a beneficial effect on the intention to use video conferencing (VCI).

The facilitating condition (FC) is that the degree to which an individual believes that a company and technical infrastructure exist to create the system easier to use (Venkatesh et al., 2003). Perceived behavioral control, facilitating condition, and compatibility are the principles indicated by three separate conceptions in TAM, MPCU, and IDT. The technological features of a video conferencing facility would have an impact on the teacher's decision to use it or not. As a result, the following proposal was made:

Hypothesis 4: FC has a beneficial effect on the intention to use video conferencing (VCI).

Hedonic Motivation (HM) is described as joy or enjoyment experienced as a result of utilizing the system, as well as a significant contribution to the desire to use the new system (Brown & Venkatesh, 2005). Research on information systems has found that hedonic motivation is directly connected to the adoption and use of technology. The teacher's decision to employ video conferencing would be influenced by its hedonic motive. The H5 theory is as follows:

Hypothesis 5: HM has a beneficial effect on the intention to use video conferencing (VCI).

Habit (HB) is described as the degree to which humans tend to perform behaviors automatically as a result of learning, and habit is sometimes confused with automaticity (Limayem, Hirt, & Cheung, 2007). Venkatesh (2012) claims that HB has a direct or indirect influence on behavioral intention (Venkatesh et al., 2012). The HB of a video conferencing system will influence the teacher's decision to use the system in the future. As a result, we have hypothesis H6 and H7:

Hypothesis 6: HB has a beneficial effect on the intention to use video conferencing (VCI).

Hypothesis 7: HB has a beneficial effect on the use of video conferencing (VCU).

Price Value (PV) is defined as a consumer cognitive trade-off between the perceived benefits of applications and the financial cost of using them. (Dodds, Monroe, & Grewal, 1991). Venkatesh (2012) defines PV as users' perceptions of trade-offs between benefits and costs (Venkatesh et al., 2012). The teacher's decision to employ video conferencing would be influenced by the PV. As a result, we've got the H8 hypothesis:

Hypothesis 8: PV has a beneficial effect on the intention to use video conferencing (VCI).

Video conferencing intention (VCI) is defined as an individual's intention to perform a

specific action or as a subjective probability of completing the behavior, as well as the cause of a specific act of usage (Mun, Jackson, Park, & Probst, 2006). The goal of video conferencing is to get teachers to use it. As a result, we have the hypothesis H9:

Hypothesis 9: VCI has a beneficial effect on the use of video conferencing (VCU).

The analysis included demographic data (DE), such as age, gender, school level, and information technology communication (ICT) experience, as suggested by UTAUT2. As a result, it speculates on the following:

Hypothesis 10: DE has an effect on both independent and dependent elements.

3. Methods

3.1 Research method

The research was conducted in two stages: (1) preliminary qualitative research and (2) formal quantitative research. To create a draft scale, the author used the theory of unifying and accepting technology use (UTAUT2) and the actual situation of using conferences to teach during the COVID-19 outbreak in Vietnam. Following that, the author discussed the draft scale with teachers who used the video conferencing system to teach during the COVID-19 epidemic in order to calibrate it and provide a preliminary experimental scale for research. The scale from the preliminary study was used in the formal study after it was corrected. The observed variables in the official study were quantified using a 5-point Likert scale (at the lowest level 1 is strongly disagree and the highest level is 5 strongly agree). The survey will be distributed via social media platforms, forums, and teacher communities in Vietnam. A total of 215 data samples were collected, with 203 samples (12 invalid samples) of 29 observed variables being usable. SPSS software (Cronbach's Alpha and EFA) and AMOS were used to clean and analyze the collected data (CFA and SEM). The formal study's analysis included exploratory factor analysis (EFA); reliability analysis (Cronbach's Alpha); confirmatory factor analysis (CFA); and analysis of the structural equation model (SEM) to test the model and the research model's hypotheses.

3.2 Data collection and Descriptive statistics

The descriptive data are used to determine indicators for teachers who used video conferencing to train students during the Covid-19 epidemic. Video conferencing app: 54% of respondents utilized ZOOM, with 32% using MS Team, the rest were Google Meet and other applications, 11% and 3% respectively. Gender distribution is unequal, with roughly 70% female and 30% male. Age: respondents aged 31-40 and 41-50 account for 50.2 percent and 29.6 percent, respectively; the remaining respondents are aged 22-30 and above 50. ICT Experience: Nearly 85% of respondents reported having more than ten years of computer experience; the remainder reported having fewer than five years. School level: more over half of the respondents are now in high school, and around one-quarter of them are currently in secondary school. Another one-quarter of the respondents are currently at university, and the remaining nine percent are in primary school.

4. Results

4.1 Exploratory Factor Analysis (EFA)

PV1 and PV3 were excluded from the first exploratory factor analysis (EFA) because their factor loadings were less than 0.50. After eliminating PV1 and PV3, the price value (PV) component was left with just one variable to evaluate. As a result, the PV component of the exploratory factor analysis was omitted (EFA). The second EFA then extracted eight items from the 26 indicators. As predicted by the theoretical model, the variables coalesce into eight groupings factors in the rotational component matrix, including effort expectancy (EE), facilitating condition (FC), hedonic motivation (HM), habit (HB), video conferencing intention (VCI), and video conferencing usage (VCU). According to Table 1, the EFA factor loadings of all indicators vary between 0.641 and 0.904.

Table 1. Structure of Components and Scale for Video Conferencing Usage

	Observed variables		Factor Loading		Cronbach Alpha	Average Variance Extracted
			EFA	CFA	CR	AVE
Performance Expectancy (PE)					0.763	0.531
1	I am always available to use the video conferencing system to teach online.	PE1	0.70	0.82		
2	I'm really interested in learning how to use and operate the video conference system.	PE2	0.64	0.80		
3	I'll be using a video conferencing system that fully combines online teaching support tools.	PE3	0.84	0.79		
Effort Expectancy (EE)					0.892	0.679
4	I find it simple to teach online using the video conferencing method.	EE1	0.90	0.87		
5	I know how to use the video conferencing technology.	EE2	0.78	0.84		
6	The video conferencing system gives me complete instructions to help me with the teaching process.	EE3	0.71	0.83		

	Observed variables		Factor Loading		Cronbach Alpha	Average Variance Extracted
			EFA	CFA	CR	AVE
7	It's simple to learn how to use the video conferencing technology.	EE4	0.87	0.75		
Social Influence (SI)					0.827	0.627
8	My colleagues believe that using the video conferencing system for online education will be more effective.	SI1	0.75	0.88		
9	Other schools also use the video conferencing system for online education.	SI2	0.89	0.76		
10	My supervisor believes that I should use video conferencing to teach online to boost engagement.	SI3	0.73	0.73		
Hedonic Motivation (HM)					0.778	0.544
11	I will have access to all necessary information for online training via the video conferencing technology.	HM1	0.67	0.85		
12	Utilizing a video conferencing solution enables me to expand my capacity for online interaction with students.	HM2	0.70	0.83		
13	When I'm teaching online via video conferencing, it's simple for me to enlist the assistance of another instructor.	HM3	0.76	0.83		
Habit (HB)					0.847	0.650
14	I have made it a practice to use the video conferencing system for online instruction.	HB1	0.77	0.83		
15	I am confident in using the video conferencing system for online education.	HB2	0.79	0.85		
16	I can't quit using video conferencing to teach online.	HB3	0.77	0.77		

	Observed variables		Factor Loading		Cronbach Alpha	Average Variance Extracted
			EFA	CFA	CR	AVE
Facilitating Condition (FC)					0.841	0.571
17	Have ideal settings for using the video conferencing equipment to teach online	FC1	0.69	0.79		
18	Provide good settings for obtaining video tutorials for learning and for using the video conferencing system for online teaching.	FC2	0.81	0.73		
19	Find instructions on how to use the video conferencing technology to teach online.	FC3	0.72	0.76		
20	I quickly learned how to use the video conferencing equipment to support my teaching.	FC4	0.78	0.75		
Price Value (PV)						
21	Online teaching with video conferencing provides more information and comfort than it costs.	PV1				
22	Video conferencing increases engagement and ensures teaching.	PV2	Eliminated			
23	Using video conferencing to teach online will save you time and effort.	PV3				
Video Conferencing Intention (VCI)					0.876	0.703
24	I intend to use the video conferencing system for online instruction.	VCI1	0.72	0.82		
25	I always consider employing the video conferencing technology.	VCI2	0.88	0.75		
26	I intend to employ video conferencing for online instruction more regularly.	VCI3	0.82	0.60		
Video Conferencing Usage (VCU)					0.853	0.668

	Observed variables		Factor Loading		Cronbach Alpha	Average Variance Extracted
			EFA	CFA	CR	AVE
27	I always teach online using the video conferencing method.	VCU1	0.73	0.80		
28	I use the video conferencing equipment to improve my relationships with students.	VCU2	0.77	0.70		
29	I had numerous unique experiences using the video conferencing system to teach online.	VCU3	0.90	0.71		

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) validates the model's fit to the data. According to Table 2, the Chi-square (χ^2)/DF value is 1.197; the GFI value is 0.895; the TLI value is 0.975; the CFI value is 0.979; and the RMSEA value is 0.031. According to Table 1, all observed variables had high standardized CFA factor loadings, ranging between 0.604 and 0.883. According to Fornell & Larcker (1981), an average variance extracted (AVE) of 0.53 to 0.70 (more than 0.50) indicates that the measures have a high degree of convergent validity (Fornell & Larcker, 1981). Additionally, because all AVEs are greater than the associated squared correlation coefficients, the measures acquire discriminant validity (r^2). Additionally, the Cronbach alpha values for all variables in official measurements are adequate, indicating that they are valid measures (>0.70).

Table 2. CFA Indicator

Indicator	Level of acceptance	Results	Reference
RMSEA	RMSEA <0.08	0.031	(Hair, 2009)
GFI	If greater than or equal to 0.9, the model fits satisfactorily. Between 0.8 and 0.9 is an acceptable level of model fit.	0.895	(Seyal, Rahman, & Rahim, 2002); (Hu & Bentler, 1999)
CFI	If greater than or equal to 0.9, the model fits satisfactorily.	0.979	(Hair, 2009)

TLI	If greater than or equal to 0.9, the model fits satisfactorily.	0.975	(Hair, 2009)
CMIN/Df (χ^2/dF)	1.0 < Cmin/df <3.0	1.197	(Hair, 2009)

4.3 Structural Equation Model (SEM) Analysis

The maximum likelihood (ML) estimation of the structural equation model (SEM) yields theoretical scale indices of χ^2/dF=1.786; GFI=0.825; TLI=0.900; CFI=0.910; and RMSEA=0.062. In this case, the model is a good match for the market data. Table 3 shows the SEM in the estimates, which reveal that EE, HM, and HB have positive effects on VCI with γ=0.157 (p=0.003), 0.222 (p=0.003), and 0.294 (p=0,001), respectively, supporting H2, H5, and H6. Neither the path from PE, SI, and FC to VCI, nor the line from HB to VCU are, however, dismissed. And the findings back up H9 by demonstrating that VCI has an effect on VCU with γ=0.592 (p=0.001).

Table 3. Analysis results of relationship

Hypothesis	Relationships			Estimate	SE	CR	P - value	result
H1	VCI	←	PE	0.056	0.079	0.706	0.480	Rejected
H2	VCI	←	EE	0.157	0.054	2.943	0.003	Supported
H3	VCI	←	SI	0.071	0.056	1.263	0.206	Rejected
H4	VCI	←	FC	0.122	0.070	1.735	0.083	Rejected
H5	VCI	←	HM	0.222	0.074	2.998	0.003	Supported
H6	VCI	←	HB	0.294	0.068	4.326	***	Supported
H7	VCU	←	HB	0.110	0.074	1.486	0.137	Rejected
H9	VCU	←	VCI	0.592	0.094	6.275	***	Supported

The ANOVA test is used to examine if any variations in the connection between PE, EE, SI, FC, PV, HM, VCI, and VCU are due to demographic factors such as age, gender, school level or ICT experience. The data suggest that relationships between independent and dependent variables are unaffected by age, gender, school level or ICT experience and are statistically significant at p=0.05. As a result, H10 is deemed invalid. This research generally supports four out of every ten hypotheses (see Figure 1).

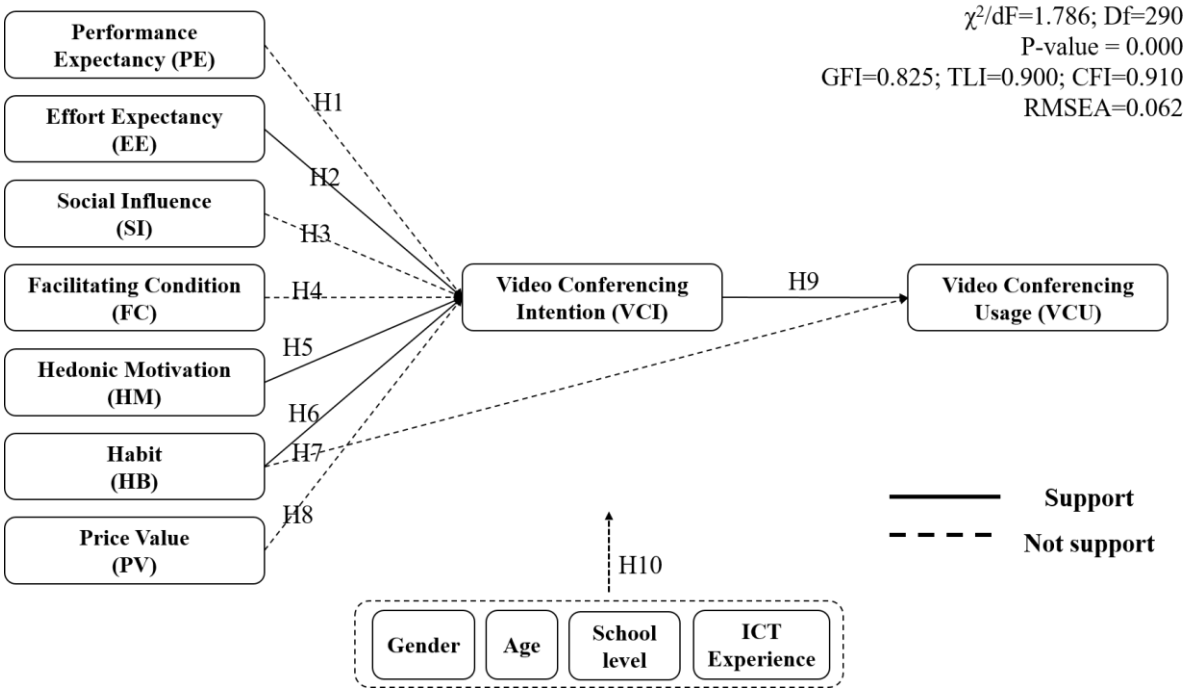

Figure 1. The acceptance and use of video conferencing model

4.4. Discussions

In summary, four of the study's ten hypotheses are accepted, and structural equation model (SEM) analysis indicates that independent and intermediate components may account for approximately 59% (R^2=0.59) of the variation. According to the study, 59% of video conferencing usage behavior in teaching during the COVID-19 outbreak was driven by variables that directly affect video conferencing usage. In terms of EE, HM, and HB, factors are those that have a direct effect on the teacher's intention to use the video conferencing system, as well as on the teacher's action.

This study examined the factors affecting the acceptance and use of video conferencing for teaching in Vietnam during the Covid-19 pandemic, using the unified theory of acceptance and use of technology (UTAUT2) framework. Our study discovered that effort expectancy had a significant effect on teachers' behavioral intention to use video conferencing (EE). Additional studies (Tarhini, Al-Busaidi, Mohammed, & Maqableh, 2017) corroborate this finding. A study found that EE had a big effect on the employment of animation and storytelling during this regard (Suki & Suki, 2017). As a result, the teaching-learning process appears to be simplified during Covid-19 pandemic when using video conferencing. Hedonic motivation (HM) had a major positive effect on the behavioral intention of teachers to use video conferencing. HM was connected to a mobile learning adoption intention (Moorthy, Yee, T'ing, & Kumaran, 2019). When it involves video conferencing, enjoyable learning experiences are critical. A user-friendly environment and electronic content significantly contribute to the creation of pleasurable learning experiences (El-Masri & Tarhini, 2017). As a result, educational designers should keep these characteristics in mind. The findings of this study indicated that habit (HB)

had a positive effect on teachers' intentions to use video conferencing systems. in keeping with Venkatesh et al. (2012), routine use of a technology incorporates a significant effect on its adoption (Venkatesh et al., 2012). In general, our study found that teachers' behavioral intentions to use video conferencing had a big effect on their actual video conferencing use. Our findings corroborated prior research ((Hoque & Sorwar, 2017); (Suki & Suki, 2017); (Ravangard, Kazemi, Abbasali, Sharifian, & Monem, 2017)). The intention to use video conferencing was predictive of actual use. the particular use of video conferencing was also contingent teachers' behavioral intent to try and do so. In summary, our findings indicate that teachers are willing to use video conferencing to boost the standard of their teaching experiences. We believe that teachers come from a range of economic, social, and cultural backgrounds in developed and developing countries. These various circumstances may have a major impact on teachers' intentions to adopt a brand new instructional system. Video conferencing may be a new approach within the Covid-19 pandemic and better education in Vietnam as a developing country. As a result, additional research on video conferencing system adoption is strongly recommended.

5. Conclusion

The purpose of our work - to examine the instructor's acceptance and use of Video Conferencing technology using the UTAUT2 methodology - has been accomplished. The findings indicate that variable measures ensure reliability. Both EFA and CFA generate high factor loadings for the variables, and their measures exhibit discriminant validity. Additionally, the SEM analysis demonstrates that factors such as effort expectancy, hedonic motivation, and habit all influence and affect video conferencing adoption; conversely, video conferencing adoption has an effect on video conferencing usage.

According to the study's conclusions, teachers must make substantial efforts to continue continuous education throughout the COVID-19 epidemic by utilizing video conferencing technology. Obtaining support from communities and professionals in the same field has also resulted in the development of various values beneficial to instructors, which is one of the major reasons for utilizing video conferencing for teaching. By utilizing video conferencing to educate during the COVID-19 epidemic, instructors were able to develop favorable behaviors that enabled them to use information technology to enhance education. The intention to use conference sessions is most strongly influenced by habitual variables. Thus, teachers should use video conferencing on a regular and consistent basis to build habits when adopting remote learning.

For online training, the study's findings shed light on the most widely used methods for ensuring continuous learning between teachers and learners who may interact and converse in real time. As a result, the use of conference meeting apps is required for distance training programs and during the covid-19 epidemic. However, to ensure efficient usage of this application, teachers require training and direction on how to use it effectively during the teaching process.

Additionally, teachers play a critical role in the session's effectiveness and the happiness of learners while using conference meeting programs for teaching ((Selim, 2007); (Shee & Wang, 2008); (Alqahtani & Rajkhan, 2020)). The teacher will operate not just as a teacher, but also as a transmitter of knowledge, assisting learners in their learning process through the use of conference meeting software.

For managers and educational policymakers, research indicates that using video conferencing technology for distance training and online teaching is a viable option. Developing online and distance education programs requires the use of video conferencing tools to facilitate communication and instruction between teachers and students. As a result, managers must develop an appropriate strategy for utilizing, exploiting, and integrating conference applications into learning content management systems appropriate for each specific level of study in order to ensure the quality of teaching and learning outcomes for learners. Additionally, as new technologies are implemented in education, managers must develop training and teacher development plans in order to develop a core human resource for the future development of online training and distance learning.

In a follow-up study, the authors will explore the combined effects of the elements as well as expand the scope and subject of the research, modify the scales, add more variables to the research model, use random sampling, and make recommendations that will help educators, e-learners, educational organizations, and service providers implement video conferencing and e-learning strategies.

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A Theoretical Study on the Genuinely Effective Technology Application in English Language Teaching for Teachers and Students

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Abstract

It is strongly believed that advanced technology has created considerable influences on fields generally and English language teaching and learning particularly. Therefore, a myriad of latest applications, modern devices, and inventive soft wares have flooded the educational market for the last two decades, especially during the time the whole world has suffered from the serious effects of Coronavirus. This paper mainly focuses on the strengths and weaknesses of technology integration in English language teaching and suggesting some practical solutions to overcome the difficulties.

Keywords: Technology integration, teaching creativity, learning engagement, authentic resources, advantages and disadvantages, technology application

1. Introduction

Language generally and English has been considered one of the most meaningful elements influencing international communication activities, and students worldwide have tried to improve their English language proficiency and practical communication (Grabe & Stoller, 2002; Ahmadi, 2018). According to the personal viewpoint of the writers, we firmly agree with the perspective of Ahmadi (2017) and Clements & Sarama (2003) that one of the decisive and vital contributions for students' performance is the lecturers' method used in their classes to facilitate the language learning process. Furthermore, the language teaching method has been drastically changed due to the remarkable influences of technology development, as argued by Carol (2003). Especially, the instructors' teaching methodology can be supported thanks to the application of technology significantly in terms of preparing activities sufficiently to satisfy both visual and auditory senses (Becker, 2000; Solanki and Shyamlee, 2012; Pourhosein Gilakjani, 2017, Teh, 2021; and Tran et al., 2021) and providing countless authentic and interesting learning resources to students (Bull & Ma, 2001; Harmer, 2007; Genç lter, 2015; and Larsen-Freeman & Anderson, 2011), improving students' cooperation and confidence (Bennett et al., 2000; Patel, 2013), enhancing their language productivity and improvement (Alsulami, 2016; Rodrigues & Vethamani, 2015) as well as meeting their distance learning demand for students and teachers' safety during Corona Virus' pandemic (Hoang & Le, 2021; Pham & Vo, 2021; Chau, 2021). This study is aiming to present the strong and weak points of technological application in teaching English context and figure out some solutions.

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2. Literature review

a. Definition of technology and the use of technology in English language teaching

Obviously, technology or advanced technology has not been an unfamiliar terminology and has been defined by different researchers in fields. Especially, İŞMAN (2012) describes it as the interrelationship between humans and machines and the environment where people prefer the application of appropriately technical processes into their practical tasks. Meanwhile, "technology integration" is the term suggested by Hennessy, Ruthven, and Brindley (2005) and Pourhosein Gilakjani (2017), encompassing the technology application ways of teachers in performing their teaching English activities effectively to encourage the students' learning engagement in the classrooms.

b. Previous studies to support the advantages of the technology application in the English teaching context

As mentioned in the following content, some studies have been performed for the advantages of technology utilization in the English language teaching and learning context.

Firstly, technology is an effective tool for teachers to enhance their learners' cooperation (Costley, 2014; Gillespie, 2006; Rahimi & Bigdeli, 2014; Hashim, 2006) generally and their peer reading work particularly (Keser, Huseyin, & Ozdamli, 2011). Thanks to the support of technology, teachers have easily adapted their teacher-centered to learner-centered approach and played the better role of facilitator in guiding their students' learning via providing cooperation tasks, collecting information, and interacting with material sources actively. Moreover, the writers agree with Mouza (2008) and Sabzian, Pourhossein & Sodouri (2013) that technology application can also boost the students' confidence via the cooperation among them and teachers by assisting their teachers' technical teaching process.

Secondly, as regards teaching sufficiency, Bennett, Culp, Honey, Tally, and Spielvogel (2000) strongly emphasize that appropriate selection and utilization of computer technology can contribute dramatically to the improvement of teachers' teaching and learners' learning in schools by providing a large number of opportunities for them to explore the endless useful materials from the Internet. Furthermore, according to Raihan & Lock (2012), Susikaran (2013), Patel (2013), Lian (2014), and Arifah (2014), they argue that computer technology and its application in classrooms completely can effectively enhance both teaching and learning environment in terms of learners' linguistic knowledge, background knowledge, and interpretation to meet the educational demands of students as compared with lecture-based classes.

Thirdly, technology integration in classrooms directly leads to conveniently authentic material resource exposure, as supported by Warschauer (2000a), Drayton, Falk, Hobbs, Hammerman, and Stroud (2010) Peregoy and Boyle (2012), and Parvin & Salam (2015). This point can be explained that technology application from the teachers can create abundant opportunities for their students to practice social interaction to boost their language skills and their life skills cognitively and meaningfully.

Fourthly, technology application may lead to greater English skills improvement for students generally, as demonstrated by a study conducted by Alsulami (2016). In this study, the positive influences of technology on learning English as a foreign language among 36 female EFL students at Effatt College were investigated via questionnaires with Likert scale questions included four specific questions regarding technology tools that enhance learning the English language. The analyzed data using the Statistical Package for Social Sciences

(SPSS) showed the results that kinds of computer soft-wares, social networking websites, online videos, audio tools (i.e., YouTube, Skype, MP3 players), and smartphones and tablets apps have a positive impact on learning English as a foreign language. Furthermore, according to the argument of Rodrigues & Vethamani (2015), computer-mediated activities provide unlimited and effective online platforms for ESL learners to practice their oral conversations in an individualized learning environment at their own pace and time. Therefore, students in the experimental group can enhance their English-Speaking proficiency, learning autonomy, and self-confidence despite unstable Internet connection compared to the students in the control group within the 12-weak Intensive English Program. Moreover, based on the result of the study carried out by Yunus and colleagues (2013), Information and Communication Technologies (ICTs) play a major role in boosting English Reading and Writing skills for ESL students in a secondary school, Malaysia. Based on the data collected from 23 teachers there via a semi-structured interview, the findings of the study reveal that ICT application may not only contribute to the greater English speaking and writing skills but also facilitating the students' attention during their learning process, as well as their vocabulary knowledge.

Finally, technology application has also demonstrated its extremely important role in enhancing the demand for long-distance learning during Corona Virus' pandemic (Hoang & Le, 2021; Pham & Vo, 2021). According to Hoang & Le (2021), despite the difficulties in online group learning between lecturers and students, an online learning solution should be preferred in such emergency situations. Furthermore, we appreciate learning online via kinds of teaching online programs, including Zoom Cloud Meeting, Microsoft Teams, Vsee, Voov, Google Classroom and Google Hangout, etc. Such high-tech utilizations have demonstrated their significant role in vigorously changing from in-class teaching to online teaching to meet the distance learning demand of students during this severe time of Coronavirus outbreak.

c. Perspectives towards disadvantages of technology utilization in classrooms

There are constantly two sides to everything, and technology integration in classrooms is not an exception where both teachers and learners have faced during the time because multimedia utilization sometimes is not as positive as we may think.

First of all, the writers agree with Solanki & M Phil (2012) that over technology implication limits the students' cognitive thinking potential when they depend too much on it by searching, clicking, and finishing as fast as they can lazily avoid the thinking enhancing, information discovering, and problem-solving steps suggested by the teachers. Moreover, the students' imaginable thinking might be restricted by inappropriate utilization of technology from the teachers. This means overloaded technology use in the class might cause students' abstract thinking in transferring their personal recognition to the better rational interpretation after the lessons cognitively and metacognitively when they focus only on the sounds, images, and videos.

Secondly, according to Solanki & M Phil (2012), the application of technology in classes sometimes causes the useless dependence for teachers when teachers may have become slaves to the technology instead of playing their leading role in teaching practices, especially elderly ones when they cannot keep up with the extremely fast development of the current era of technology. Ultimately, over-stressed of technology is the other burden on the shoulders of the teachers besides their long-life learning responsibility.

Finally, to the writers' practical situations, technical problems can be considered as one of the disadvantages mentioned here because not all technical difficulties can be solved effectively

in the classrooms, which delay the teaching and learning process of both teachers and students in some cases.

3. Conclusion

Technology implication is favorable in the teaching and learning context generally; however, teachers should choose and apply it appropriately with specific targets for particular skills. According to Solanki & M Phil (2012), Zoheb (2017), and Ahmadi (2018), we have highlighted the important and significant role of multimedia utilization, and we should not forget the perfect and irreplaceable position of teachers in the classes where interaction can be enlarged to cultivate the students' communicative competence, to boost the students' cognitive thinking and imaginative potential by actively technology implication and control.

Based on the opinion of Ahmadi (2018) and the writers, in order to avoid the useless dependence on technology integration for the teachers in the classrooms, the educational organizations, including private and national schools and universities and teaching foreign language centers for all levels should have suitable technical application training programs with specific technique utilization to support teachers for stress-reducing caused by their limited understanding of technology. Especially, the schools should have effective technical staff who are ready to support teachers in their classrooms as fast as they need to ensure the learning process of the lessons.

Agreeing with the viewpoint of Ahmadi (2018), teachers, should self-study by searching updated information on teaching and learning English technology integration and study from other colleagues to upgrade their skills of technological application through various kinds of teaching online programs including Zoom Cloud Meeting, Microsoft Teams, Vsee, Google Classroom and Google Hangout and the other outstanding websites in assisting them to design funny and attractive interaction activities for students like Kahoot and Quizzes.

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A Case Study of Students' Views on Effective Online Learning

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ABSTRACT

This study investigates the students' opinions of the elements of effective online learning. The respondents (n=172) completed a twelve-week course in the module 3 English classes at the University of Economics Ho Chi Minh City (UEH) taught by the author with an eight-week online period. The tool includes a questionnaire with 14 questions regarding the factors that enable them to be engaged in the online lessons and an open-ended question asking for the student's contribution to the ideas of effective online learning. The questionnaire utilizes the Likert scale via Google Form. The elements cover the three components: cognitive presence, teaching presence and social presence in the foundational model for online learning developed by Garrison et al. (2000). Seven main elements for effective online English teaching are recognized as: teaching method, course content, learning activities (updated news delivery, games, polls, and student presentations are favourable), myriad interaction (short questions are preferable), learning incentives (bonus marks), supportive learning environment (teacher voice, praise, encouragement, good teacher-student and student-student relationships) and supplementary materials (revision, extra resources, etc.). Finally, the writer draws on some suggestions for effective online teaching and learning.

Keywords: effective online learning, online teaching, student engagement

1 INTRODUCTION

The Covid-19 pandemic has forced educational institutions to move into online teaching. This type of education requires more effort from both teachers and students as it presents new modes of presentation and interaction. In this paper, the writer first gives the theoretical background of effective online teaching before presenting the results of the students' opinions (n=172) of the elements that enable them to be engaged in online lessons. The writer then suggests some ideas for effective online teaching and learning.

Online education has been studied for decades but has recently gained high focus due to the Covid-19 pandemic. There have been numerous studies on online teaching and learning over the last year.

The best-known theoretical framework for designing an online learning environment is the model developed by Garrison et al. (2000), which presents three critical components for an effective online educational community: *cognitive presence, social presence,* and *teaching presence*. Cognitive presence is providing a sufficient degree of the content of the course. Social presence relates to establishing a supportive environment for students. Teaching presence involves the way teachers design and organizes the learning experience. This theoretical framework has been the most popular model for online educational studies.

Likewise, Gold (2001) points out three basic roles of online facilitators: *organizational, social*, and *intellectual*. The organizational role involves setting the agenda, objectives, and procedures for the learning process. This is essentially the teaching presence of Garrison et al. (2000)'s framework. The facilitator's main social role is the creation of a friendly environment for the students by giving welcome messages, using a personal tone, seeding students' feedback with specific examples and references. Good teachers also play a social role model of good online and intellectual behaviour for students and help them become better students. Correspondingly, this is the social presence. Finally, in the intellectual role, moderators facilitate the students' understanding through discussion, questions, probing responses, synthesizing, summarizing, and developing themes and resources. This is basically cognitive presence.

In addition, Oliver & Herrington (2003) demonstrate the constituent elements of online learning settings as in Figure 1.

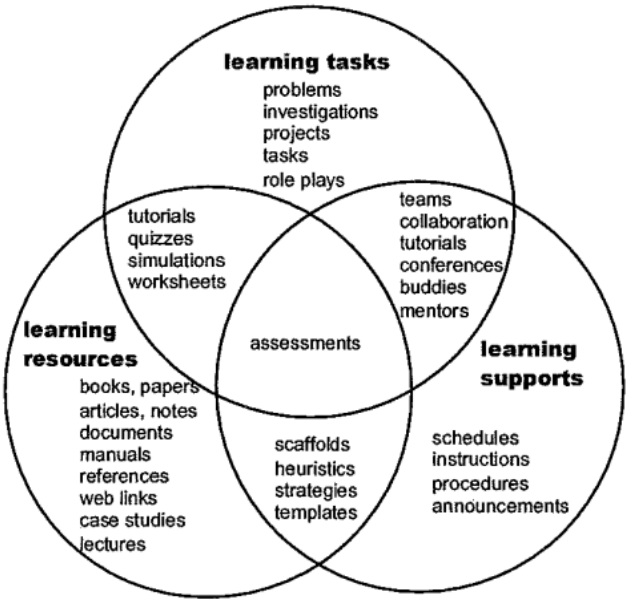

Figure 1. Constituent elements of online learning setting (Oliver & Herrington, 2003)

The online educational setting involves three elements: *learning tasks, learning support*, and *learning resources*. Designing learning tasks is ‘the design and specification of tasks to engage and direct the learner in the process of knowledge acquisition and development of understanding’ and 'characterized by learner engagement in cognitively complex tasks involving such activproblem-solvingm solving, critical thinking, collaboration and self-regulation (Oliver & Herrington, 2003, p.113). They suggest that the learning activity be authentic. Planning learning support is arranging the strategies to enable learners to implement and complete the learning tasks successfully. The design and specification of supports are to scaffold the learning and provide feedback that is responsive and sensitive to their individual needs for the online learner. Selecting the learning resources is 'the design and specification of the learning resources needed by the learner to successfully complete the set tasks and to facilitate the scaffolding and guidance' (Oliver & Herrington, 2003, p.113). They recommend that instructors provide content with perspectives from a multitude of sources using both conventional materials and electronic sources and that the resources be relevant and authentic.

Scholars have also given a myriad of pedagogical recommendations for online education. Doolittle (1999) emphasizes the importance of an active learning environment for online students with eight recommendations: 1. Learning should take place in authentic and real-world environments. 2. Learning should involve social negotiation and mediation. 3. Content and skills should be made relevant to the learner. 4. Content and skills should be understood within the framework of the learner’s prior knowledge. 5. Students should be assessed formatively, serving to inform future learning experiences. 6. Students should be encouraged to become self-regulatory, self-mediated, and self-aware. 7. Teachers serve primarily as guides and facilitators of learning, not instructors. 8. Teachers should provide for and encourage multiple perspectives and representations of content.

Furthermore, May & Short (2003) used the metaphor of gardening in cyberspace to demonstrate the process of enhancing online teaching and learning. There are well-matched analogues between the practices of gardening – positioning, conditioning soil, watering, and controlling weeds and pests – and the online pedagogical practices, including addressing individual differences, motivating the student, providing feedback, and avoiding information overload.

Because of the Covid-19 pandemic, online education has become popular. Numerous studies on online teaching and learning have been carried out over the last year. Many studies focus on the advantages and disadvantages when implementing online teaching and learning in their own institutions, like most recently Nguyen, H.N. (2021), Nguyen, T.N. M., Tra, V. D., & Nguyen, P. H. (2021), Tran, V.M.Y., &Nguyen, T.U.N. (2021), Nguyen, H. U. N., & Duong, L. N. T. (2021), etc.

We know that effective online learning results from thorough instructional design and conscientious implementation. Instructors in an online class need to make a lot more effort than they do in a traditional classroom.

2 METHODS

2.1 Pedagogical Setting & Participants

The subjects are the students (n =172) in module 3 English classes at UEH. All of the participants had finished a 12-week English course taught by the author with an 8-week online period. The students were taught online via Google Meet.

2.2 Design of the Study

A questionnaire via Google form is utilized to measure the students' views on the items related to effective online English learning.

2.3 Data collection & analysis

The first part asks the students to rate the 14 items that can affect their online learning. The Likert scale is utilized, ranging from strongly disagree, disagree, no idea, agree, and strongly agree. The second part is an open-ended question asking for the student's contribution to the ideas of effective online learning and teaching.

2.4 Research Questions

The research aims at promoting effective online teaching and learning from students' perspectives. Through analyzing students' views, the writer identifies important elements that can engage students in online learning and then proposes some ideas for effective online English teaching and learning.

The purpose of the study is to answer the two questions:

1. What elements are considered important for effective online learning in students' viewpoints?
2. What should teachers do so as to promote effective online learning?

3 FINDINGS AND DISCUSSION

3.1 Findings

The results of students' opinions on the elements that can engage them in online learning are shown in Table 1.

Table 1

Students' ideas on the elements that can engage them in online learning

Items	SD =1		D=2		N=3		A=4		SA=5		Mean
1. Lecture content	6	**4%**	2	**1%**	4	**2%**	61	**35%**	99	**58%**	4.42
2. Bonus marks	5	**3%**	4	**2%**	14	**8%**	82	**48%**	67	**39%**	4.17
3. Up-to-date news	4	**2%**	2	**1%**	18	**10%**	73	**43%**	75	**44%**	4.24
4. The teaching method	5	**3%**	1	**0.5%**	3	**1.5%**	73	**43%**	90	**52%**	4.41
5. Teachers' voice and intonation	5	**3%**	1	**0.5%**	18	**10.5%**	74	**43%**	74	**43%**	4.23
6. Games	5	**3%**	5	**3%**	18	**10%**	88	**51%**	56	**33%**	4.08
7. Discussion questions	4	**2%**	5	**3%**	37	**22%**	81	**47%**	45	**26%**	3.92
8. Presentation activities	7	**4%**	16	**22%**	41	**24%**	77	**45%**	31	**18%**	3.63
9. Q& A section after a presentation	2	**1%**	17	**10%**	33	**19%**	88	**51%**	32	**19%**	3.76
10. Pair work and group work.	3	**2%**	10	**6%**	44	**25%**	83	**48%**	32	**19%**	3.76
11. Short questions	4	**2%**	2	**1%**	26	**15%**	101	**59%**	39	**23%**	3.98
12. Students' opinion poll	4	**2%**	5	**3%**	44	**25%**	86	**50%**	33	**20%**	3.81
13. Encouragement and praise	6	**4%**	4	**2%**	52	**30%**	75	**44%**	35	**20%**	3.75
14. Learning atmosphere	5	**3%**	2	**1%**	14	**8%**	76	**44%**	75	**44%**	4.24

Note. SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree

Teaching content and teaching method are the two elements that are valued the most highly (mean = 4.42 and 4.41 respectively). The teaching method gets the highest number of total agreements (95%), including agreement and strong agreement, preceding lecture content which makes up 93%. However, lecture content is the element that receives the highest number of strong agreement (58%), while the teaching method gets 52%. On the opposite end of the scale, the teaching method is one of the elements that have the fewest number of disagreements (about 3%), while lecture content gets 5%.

A supportive learning environment stands out as the third significant element (mean = 4.24), which accounts for 88% of agreement in total. The students show a strong desire for bonus marks, with 87% of the students expressing their favour. Furthermore, the lecturer's voice is highly appraised in attracting students to the lecture (mean = 4.23).

The two activities that are appreciated the most are the inclusion of up-to-date news (87%) and games (84%). Short questions get high approval of 82%, whereas discussion questions obtain 73%. In addition, students like to join in opinion polls, with 70% of the students

wanting the teacher to conduct regularly. Also, most students (64%) would like to be praised and encouraged regularly.

The presentation activity gets the least favour with only 63% of the students showing their approval. Moreover, this is also the factor which is disagreed the most (26%). Besides, after the presentation, the question and answer session is the second least favoured, with 11% of the students showing disagreement. The role of pair work and group work in enhancing student-student interaction is not highly appreciated, with 8% disagreeing, 25% showing neutral ideas, only 67% agree.

In the open question, the students are asked to give suggestions for effective online English learning. Most of the students place emphasis on more interaction between teacher and students as well as between students and students. They also show a preference for teachers frequently asking small questions so as to increase interaction and pull them back to the lesson as it is easy for them to lose their attention when studying online.

Many students propose modifying lessons with games, videos, etc., to make the lessons more interesting. They expect a fun, friendly learning atmosphere.

They suggest using another website for listening as sometimes the audio files are not clear when transmitted online. The students want more learning materials, exercises, resources for self-study, as well as more assignments with bonus marks. They recommend giving students some small topics to look for information, which they will share with one another in the next class meeting. After each lesson, they would like to have some small review exercises on LMS (learning management systems) to help them consolidate the knowledge.

There is also the idea that all students should turn on their webcams so that they see other students' faces in order not to feel lonely.

3.2 Discussion & Suggestions

The teaching method stands out as the essential factor that can engage students in the lesson. Thus, teachers should pay much attention to their teaching method development as the teaching method has never lost its vital role in the learning process.

Lecture content is considered the second most vital element. This is the cognitive presence element (Garrison et al., 2000) for effective online education. The teacher needs to concentrate their effort to design the course content which is meaningful and relevant. Educators should promote activities that are active, experiential, and authentic.

In the teaching presence element (Garrison et al., 2000), along with the teaching method, which is considered the most important aspect, the teacher's voice is also critical in promoting effective online learning. Teachers can use their voice and intonation to attract students. The cyberspace of online learning limits the teacher's interaction with the students. The only means by which the teacher can communicate with the students in his/her voice. Thus the teacher should try to use an appealing voice so as to engage the students. The voice should also show the teacher's enthusiasm. It is only enthusiasm that can pervade, transfuse and

provoke enthusiasm. How can the students be enthusiastic about the lesson if the teacher is not enthusiastic himself/herself?

Additionally, students like the inclusion of up-to-date news in their lessons, so teachers should integrate some news into their instructional designs to make the lessons more practical and updated. Students will pay more interest in the issues that are to their concerns, realistic, and useful.

Students also express their enjoyment in games. Games still play a significant role in involving students and creating a fun and appealing learning atmosphere. Teachers can make use of gamification in their instruction to make the lesson more interesting. The learning activity can be either gamified by adding competition mode or modified with game-playing via various tools like PowerPoint, online games with Kahoot, etc. Furthermore, creating games is the job of the teacher and the task that students like doing.

Interaction is identified as a vital element by the students. Teachers need to promote teacher-student as well as student-student interaction as much as possible, employing all kinds of vehicles at their best. The students prefer short questions for increasing interaction more than discussion questions or the question and answer session after the presentation. Therefore, it is necessary that teachers frequently ask interactive questions to involve students as it is easy for students to feel lonely and lose their focus when studying online. Teachers can ask questions about students' feelings and opinions during the lesson or put simple questions that students can answer easily. For the questions that require complicated answers, teachers should break the question into small parts to give students scaffolding. Teachers can, from time to time, conduct students' opinion polls during the lesson to increase students' participation in the lesson.

A few students (8%) express their dislike, and 25% show their reluctance to pair work and group work since the online environment makes it difficult for them to interact with each other directly. Hence, pair work and group work can be exploited by project-based learning or task-based learning with the students' presentations about their job. The presentation should be short, concise and have a time limit as other students will easily lose their attention and get bored with long presentations.

Regarding the social presence element (Garrison et al., 2000), teachers should try to promote a supportive learning environment, which is regarded as the third significant aspect by the students. A supportive learning environment must deploy both good teacher-student relationships and student-student relationships. Students like praise and encouragement, so teachers need to commend students' achievements and give encouragement when necessary frequently. On the ground that students show a strong desire for bonus marks, teachers can utilize bonus marks as stimulation for their participation. In addition, students may be encouraged to find a studying companion. The lack of physical presence in a real classroom will make it easy for students to feel lonely and distracted. Good companions can take care of each other in the learning process. Teachers sometimes also need to ask students to turn on

their webcams so that they see other students' faces, which helps create an atmosphere like a face-to-face classroom to lessen the feeling of being lonely.

In today's 4.0 era, teachers should take advantage of technology to facilitate learning and engage students. Teachers can integrate with other websites together with LMS, etc. and can deploy the channels like Youtube, TED talks (Ted-ed), etc.; the apps for creating presentations like Mentimeter, Flipgrid, Padlet, AnswerGarden, etc.; the apps for quizzes like Quizizz, Quizlet, etc. in order to enrich the lessons.

4 CONCLUSION

In sum, seven main elements for effective online English teaching are recognized as: teaching method, course content, learning activities (updated news delivery, games, polls, and student presentations are favourable), myriad interaction (short questions are preferable), learning incentives (bonus marks), supportive learning environment (teacher voice, praise, encouragement, good teacher-student and student-student relationships) and supplementary materials (revision, extra resources, etc.). To promote effective online learning, teachers must pay attention to four primary dimensions: structuring an effective course design, creating community and engagement, facilitating online interaction, and supplying adequate learning support. Online education emphasizes an interactive learning environment; therefore, effective online instructions have to facilitate and enhance interaction with both teacher to student and student to student dimensions. Teachers have to learn how to make the most of the advanced learning tools in the 4.0 era. The study has a fairly small number of respondents and a limited number of learning activities. Further research can exploit more learning activities and online resources.

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Biodata

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Appendix

The questionnaire in English

Dear students,

In order to enhance the online learning of English, please help me answer the following questions.

Thank you very much for your valuable contribution.

Part 1. Please choose the degree which shows your agreement/disagreement.

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Interesting lecture content is very important.					
2. Bonus marks for students' participation in the lecture create great motivation for students to join the class.					
3. The inclusion of up-to-date news in the lecture is very attractive to students.					
4. The teaching method is very important in attracting students to the lecture.					
5. Teachers' voice and intonation can help attract students to the lecture.					
6. Games in class make students more interested.					
7. Discussion questions help increase interaction in class.					
8. Presentation activities help students become less boring.					
9. The Questions & Answers session after the presentation creates an opportunity for students to interact with each other.					
10. Teachers should enhance student-student interaction through pair work and group work.					
11. Teachers often ask short questions can increase interaction with students, which will make students more attentive in class.					
12. Teachers should regularly conduct students' opinion poll during the lesson to increase students' participation in the lecture.					
13. Teachers should regularly encourage and praise students.					
14. Teachers should create a friendly, fun online learning atmosphere, which can help engage students.					

Part 2. What are your suggestions for the online learning of English to be more effective?

Thank you for completing the questionnaire.

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Using E-Learning Platforms in Online Classes: A Survey on Tertiary English Teachers' Perceptions

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Abstract

E-learning platforms have been widely applied in many tertiary institutions during the crisis of the Covid-19 pandemic for their favorable advantages. This study employed a survey design to (1) explore certain e-learning platforms used by teachers in online classes and (2) discover their perceptions towards those tools. The open-ended questionnaire and semi-structured interviews, both conducted online, were the two primary research instruments in the study. The questionnaires discovered that English teachers from different tertiary settings were applying various information communication technology tools to their online classrooms for three distinctive purposes: providing information or delivering lessons, generating communication between teachers and students, and boosting collaboration among students. The data set gathered from the interviews revealed that teachers had positive perceptions towards the tools they were using and that their choices were reasonable based on the regulated environment, the functionality of the tools, teachers' information technology literacy, the appropriateness of the lesson contents and the utmost convenience the tools offered.

Keywords: E-learning platforms, online classrooms, tertiary English teachers' perceptions

1. Introduction

The Coronavirus pandemic has unprecedentedly set in since the end of 2019, causing widespread damage on a global scale. According to a current report by the Worldometer website, among over 190 countries across the world that are extensively affected by the virus, the number of infected patients exceeds 195 million, with the death cases reaching up to 4.2 million.

In particular, in Vietnam, during the pandemic crisis, to reduce the spread of the virus and diminish its adverse consequences, certain remedial measures have been taken under the directives of the Prime Minister in almost every aspect of life. Education is not an exception, either. As a result of prolonged school lockdowns, tele-education, as an inevitable recourse proposed by the Ministry of Education, has been massively applied throughout the country to ensure the continuity of schooling. Although the virtual model of Education is not a new concept

in the era of technological development, it was not until the pandemic broke out that this teaching and learning method started to grow in popularity, especially in tertiary levels. The statistics provided by MOET (2021) showed that up until July 2021, more than 43,000 schools have promptly switched over to virtual teaching and learning, in which tertiary institutions make up nearly 60%.

Therefore, the shift towards distance education has led to significant changes in teachers' pedagogical approaches, as teachers are the spearhead of teaching (Hoang & Le, 2021). While teachers in traditional classrooms can perform teaching activities through direct interactions with students, in online classes, they have to use e-learning platforms to reap the ultimate effectiveness of an online-delivered lesson (Schulten, 2020). In addition, according to Nguyen (2021), the integration of technology into virtual classroom environments is an ultimate necessity in the era of a technology-driven world. In his view, technological tools greatly facilitate the process of communication and interactions among students in their online classes.

In order to explore certain e-learning platforms employed by the teachers during their online teaching as well as delve into their perceptions towards those platforms, this study entitled ***"Using E-Learning Platforms in Online Classes: A Survey on Tertiary English Teachers' Perceptions"*** was conducted.

2. Literature review

2.1 E-Learning

2.1.1 Definition of e-learning

The definition of e-learning has been modified and developed to suit technological innovation and the needs of learners. In the broadest sense, Fee (2009, p. 16) defines e-learning as "an approach to learning and development: a collection of learning methods using digital technologies, which enable, distribute and enhance learning." It can be said that digital supports play an important part in enabling and boosting learners' learning experience in a digital environment. According to Ratheeswari (2012, p. 52), e-learning is a system in which formal teaching processes can take place in or out of the classroom using electronic resources such as computers or the Internet. Booth Fee (2015) and Ratheeswari (2012) agree that technological assistance plays a pivotal part in facilitating the learning process. Regarding e-learning in tertiary education, the Organization for Economic Co-operation and Development (OECD) narrows down the definition of e-learning by emphasizing the importance of using information and communications technology (ICT) to enhance and/or support learning. In this sense, ICT can be used as a useful tool to support the learning process in traditional classes and in an online environment. (OECD, 2005, p. 11). ICT tools widely vary from the most basic use of computers, emails, lecture notes online to web-based solutions such as online courses, online discussion, assessment, and online projects. In this paper, the definition of e-learning adapted from the two authors' theories, Fee (2009) and Ratheeswari (2012), helps students improve their learning beyond the classroom through devices including computers or the Internet.

2.1.2 Classification of e-learning

As stated by Sangrà et al. (2012, pp. 146-149) in their research, they classify e-learning into four main groups, including (1) technical – driven: use of technological support to deliver learning; (2) delivery-system – oriented: accessibility of learning through various electronic means; (3) communication-oriented: e-learning as an effective approach to enable Communication, interaction and collaboration between learners and teacher or their peers and (4) educational – paradigm – oriented: learning process facilitated by utilizing latest multimedia technologies and the Internet to better students' learning experience. In other words, e-learning is a method to deliver educational content by making full use of electronic tools to facilitate communication, interaction and collaboration during the learning process. Liaw and Huang (2003, pp.27-32) describe e-learning on the ground of the following features:

- Multimedia environment
- Integration of various kinds of information
- Collaborative Communication
- Networks for accessing information
- Implementation of different kinds of computer operating systems

In a similar way, Wilson (2012, p. 162) illustrates these components as strands with a detailed explanation as follows:

Table 1

The characteristics of e-learning components (Wilson, 2012, p. 162)

Strand	Characteristics
Administration/ information provision	● Course documents are provided online ● Appointment booking may be provided online
Communication	● Communication is generally based exclusively on online ● Discussion occurs through forums ● There may be the use of web conferencing
Collaboration	● Use of social media tools ● Co-creation of multimedia online

According to Wilson (2012), there are three main factors relating to e-learning: administration or information provision, communication, and collaboration. The first one focuses on delivering course documents to students and arranging class appointments provided online. The second element relates to some online learning activities such as instructor-student or student-student communication, discussions or web-based conferences. The last factor is that teachers can make full use of social media tools to facilitate collaboration among students. Besides, in terms of

collaboration, Tsourela et al. (2015) adds that learners can actively and cooperatively take part in the learning process to create knowledge, not just passing the course and getting the certificate.

This is supported by Sangrà et al.(2012), Liaw & Huang (2018), who agree that information provision, communication, and collaboration are the three main components of e-learning. It is obvious that e-learning makes the learning process more active, interesting and enjoyable (Liaw et al., 2007), allow learners to receive a more flexible and effective way to access the learning resources and encourage a high interaction and collaboration level between teachers and students or among students (Tao et al., 2006).

2.2 E-Learning platforms

Liu et al. (2013, p. 230) stated that e-learning platforms exploit various devices (desktop, laptop, mobile services), network technologies (WIFI, cellular services) and software platforms (operating system, network protocols and services) to enable the role of the three main users – teacher, student and administrator (Ouadoud et al., 2016). Any e-learning platform should have three main roles, namely (1) the student's role (studying the course, completing the assignment and accessing collaborative working); (2) the teacher's role (designing and delivering online courses, following the progress of learners, monitoring activities); (3) administrator's role (managing the site and monitoring all education process). Ouadoud, Chkouri, Nejjari, & EL Kadiri (2016) indicated that the e-learning platform is a computer device that groups several tools and ensures the educational lines. Indeed, e-learning platforms vary in different applications, including Google app platforms such as Gmail, Google classroom, Google Meet, and so on, along with social networking sites like Zalo, Facebook, Viber and so forth. As Enis (2013) pointed out, the popularity and functionality of Google app sites help increase collaboration among students and faculty. Ravi Shankar (2012) added that online platforms (Google classroom, Google Meet, and so on) are designed to provide learners free and flexible access to learning regardless of geographical, physical, and time boundaries. Social network sites are construed as "networked communication platforms in which participants (1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-level data; (2) can publicly articulate connections that can be viewed and traversed by others; and (3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site." (Boyd & Ellison, 2013, p. 158). It can be seen that students can receive momentous benefits from social web-based sites. Gikas & Grant (2013) also shared the positive viewpoints to these tools providing useful platforms where students can interact, communicate, and share emotional intelligence and look for people with other attitudes. Moreover, social media sites create room for students to interact, share the contents with peers, and also assist in building connections with others (Cain, 2008). Gewerc, Montero, and Lama (2014) concluded in their study that social networking sites provide ample chances for collaboration and visibility. In addition to collaboration, these social media platforms have become effective tools putting instructors and learners collaborate into a rich, interactive environment (Huffman, 2013). The collaboration and connection between teachers

and learners or among learner peers were also illustrated in a positive way through social networking sites such as Facebook, Twitter, Ning and so on in the research paper, which was scrutinized by Tran (2021).

2.3 Integration of E-learning platforms into online classes

With the blooming of multimedia and information technologies in the last decades, particularly the outbreak of the Covid-19 pandemic, the traditional teaching and learning process has undergone dramatic changes. The introduction and expansion of various e-learning platforms have been launching many changes at the tertiary level, particularly in terms of educational delivery and support processes (Dublin, 2013).

Liu et al. (2013, pp. 230-231) addressed six functions that should be ensured when integrating e-learning platforms: communication, collaboration, class management, assessment, learning activity management, and Learning Object Management.

- **Communication**: facilitating the exchange of information between teachers and students or between students and students. E-learning platforms are used to support asynchronous communication (email, discussion board) and synchronous communication (instant message, video conference).
- **Collaboration**: encouraging cooperation among students to complete learning activities or achieve educational goals (projects, games).
- **Class management:** supporting teachers in planning and organizing learning activities. E-learning platforms are applied to manage students' profiles, assist project group formation, and submit assignments or group reports online.
- **Assessment:** allowing teachers to evaluate and understand students' processes and also to provide feedback online.
- **Learning activity management:** facilitating teachers to design learning activities.
- **Learning object management:** helping teachers to create and delivering learning objects to students.

As for a wide range of functions, teachers can choose the most suitable e-learning platforms to meet the different learning objectives, effectively deliver the lessons to the students and actively manage the learning activities as well.

2.4 Perceptions of e-learning platforms from previous studies

According to Michener, Delamater and Myers (2004, p. 106), perception is referred to as "constructing and understanding of the social world from the data we get through our senses." In another way, perception is defined as the way people regard, understand or interpret something (Oxford Dictionary, 2012). In other words, when people perceive something, they consider and give their opinions on that thing based on their experiences. In this research, teachers' perceptions were illustrated through their experiences using e-learning platforms. Teachers have evaluated advantages and disadvantages while choosing these tools in teaching

and learning as well—some previous studies conducted to investigate teachers' perceptions on using E-learning platforms during the Covid-19 pandemic. Specifically, Almahasees et al. (2021) researched "faculty's and students' perceptions of Online Learning during COVID-19" with 50 faculty members and 280 students. From the findings, members from the faculty showed that they had used some E-learning platforms in teaching, such as Zoom (40%), Microsoft Team (60%). Besides, Facebook pages were used as a tool to exchange information and communicate between teachers and students. One more thing, teachers shared that they have got ample computer literacy to be ready for online classes thanks to being trained thoroughly for teaching virtually; however, teachers need to have thorough preparation to ensure stimulating interactive online classes. Another research performed by Mounjid et al. (2021) indicated a contradictory opinion on teachers' IT skills. 145 teachers (41.7%) admitted that they lack the technical knowledge for online Education and 136 teachers (39.1%) feel under a large amount of pressure due to increasing workload. Consequently, online teaching in their research has had little effectiveness for students. Additionally, the lack of staff's limited technology skills gained a high percentage in the research conducted by Zalat et al. (2021). Priyadarshani and Jesuiya (2021) studied teachers' perceptions of online teaching methods during Covid-19 at the Open University of Sri Lanka. The research was conducted with 39 teachers who were involved in virtual teaching. The teachers pointed out some of the popular e-learning platforms used in online classes, including Zoom with the most used (51%), Microsoft Team with the second most prevalent (35,9%) and Google Classroom with the least used (2.5%). Moreover, 77.5% of the teachers responded that they have enough confidence in their ICT knowledge. In comparison, there should have completed online courses without preparation for teachers to decrease their overwhelming teaching duties.

2.5. Research Questions

In order to achieve the above-mentioned purposes, the two following research questions were formulated.

a) What types of E-learning platforms do teachers use in their online classes?

b) What are teachers' perceptions of those platforms?

3. Methodology

3.1 Research settings and participants

To ask for teachers' participation in the study, the researcher designed online questionnaires and then randomly delivered them to groups of teachers on social networking sites. This means the sampling method was convenience sampling. The number of responses collected was 48, meaning that there was voluntary participation of 48 English teachers from five universities located in HCMC, namely Banking University (8%), Ton Duc Thang University (28%), Van Lang University (17%), Nguyen Tat Thanh University (22%), Saigon University (25%). According to the survey, the teacher participants aged all above 24 have had at least two-year

experiences in English teaching at the universities. In addition, they admitted that they had had little experience in online teaching prior to last year's Coronavirus pandemic outbreak.

3.2 Design of the study

The study was a survey design that was carried out based on both qualitative and quantitative methods. Firstly, the open-ended questionnaire was primarily created on the platform of Google Forms and was directly delivered through its link to groups of tertiary teachers on networking sites with the aim of investigating certain e-learning platforms currently applied in their online classes. The questionnaire consisted of 17 questions, divided into two parts. In part A, there were three questions about the teachers' background information: age, teaching experience, and current educational institutions. In part B, the teachers were asked to list out certain e-learning platforms they were currently employed to provide information for their students, maintain communication with them, and create collaboration among students in their online classes. Secondly, one-on-one interviews were also conducted online via Zoom cloud meetings to explore the teachers' choices of the platforms and the reasons for their preferences. Eight teachers voluntarily agreed to share in the interviews. The time and date for each interview meeting were decided based on the teachers' convenience. The interviews lasted from 40 to 55 minutes.

3.2 Data collection and analysis

The statistics collected through the online questionnaire were then analyzed and illustrated in the form of bar charts by using Microsoft Excel version 2016, whereas the data gathered from the interviews was descriptively presented into themes so as to reach the research objectives.

4. Results and discussion

This chapter illustrates the descriptive statistics presented in bar charts with the aim of displaying the participant responses from the questionnaire analyzed regarding Information provision, Communication and Collaboration, respectively. Moreover, insightful perceptions of the eight interviewees about using such e-learning platforms were included to clarify the objectives of the research. The results' discussion section would be followed to investigate the correlation between the analyzed results and the theoretical grounds presented in the part "Introduction" and "Literature Review."

4.1 Results

4.1.1 Results from the questionnaire

4.1.1.1 Information provision

The chart below represents several e-learning platforms the teachers use to provide students with essential information prior to their online classes.

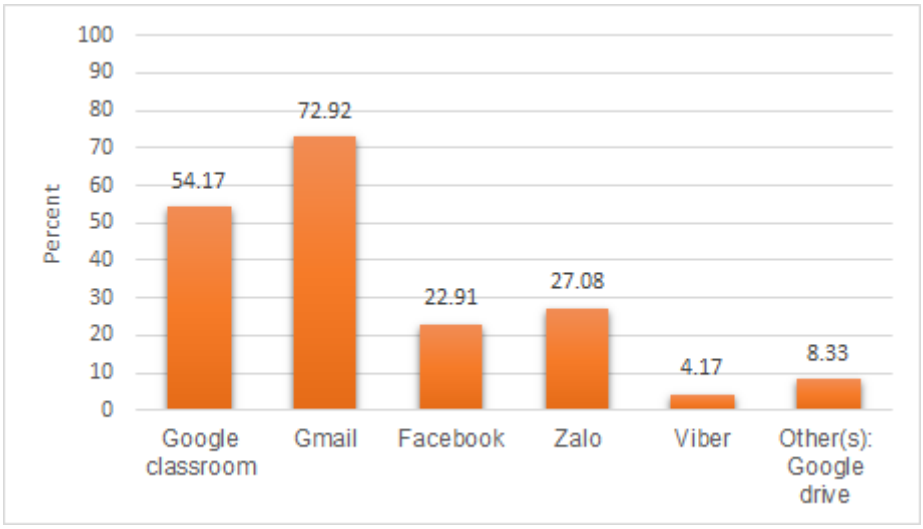

Figure 1. E-learning platforms are used to provide students with learning documents.

A closer glance at the chart reveals that the teacher participants were using a variety of platforms at the administration or information provision stage. Among them, Gmail and Google classroom are the two most preferred platforms. Specifically, Gmail accounts for 72.92% of the teachers' choices, followed by Google classroom with over a half. The proportion of teachers currently using Facebook and Zalo takes up approximately one-fourth while the two lowest percentages go to Viber or Google drive with roughly 4% and 8%, respectively.

In the questionnaire, one open-ended question asked the teachers to specify the kind of information they provided to the students by using the above platforms. The responses were diverse among the teacher participants. In detail, all of the teachers claimed that e-learning platforms had become effective tools to inform announcements on online class discipline, progress scores, make-up classes, etc. Most of the teachers (45 teachers) pointed out that they were taking advantage of their e-learning platforms to provide students with learning materials such as teachers' visual slides, e-textbooks, answer keys to exercises. 40 out of 48 teachers shared that the tools are used to send class syllabi to students, and half of the teachers wrote that they were informing the students of class meeting schedules through these e-learning platforms.

Also, via the questionnaire, it was found out that teachers were employing the aforementioned platforms at different frequencies.

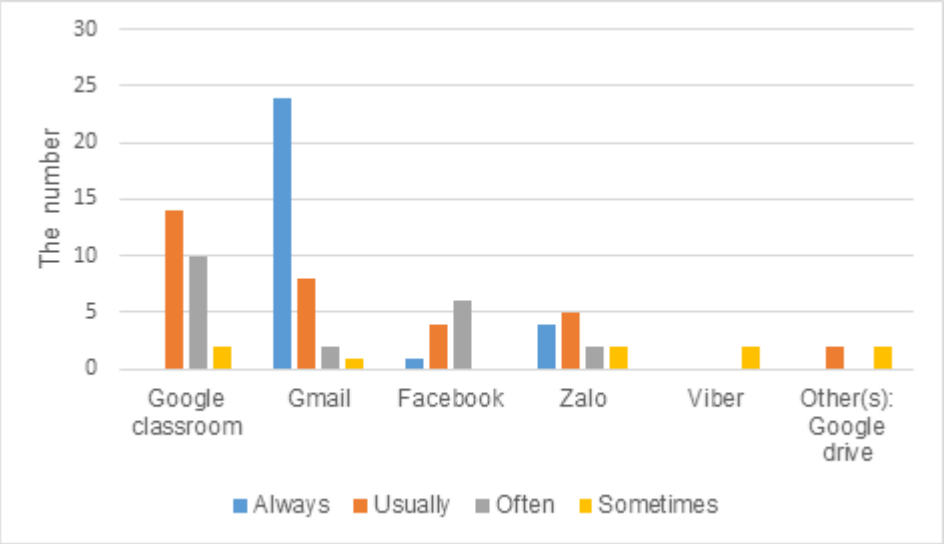

Figure 2. Frequency of using the e-learning platforms for information provision

The data result indicates that the teachers prefer Google classroom and Gmail to the other platforms. Additionally, the highest number of teachers (24 teachers) always use Gmail to send their students tasks or assignments while only one teacher sometimes does. Google classroom stands at the second position of the teachers' choices, with 14 out of 26 teachers favoring this tool. Facebook and Zalo show a similar number of teachers who usually use these tools for material distribution. On the other hand, Viber and Google Drive are the two least frequently used platforms by teachers.

4.1.1.2 Communication

Similarly, regarding communication, there were some common e-learning platforms reported to be used by the teachers to enhance the communicative connection between teachers and students as well as among students to exchange information related to the lessons. The chart below shows the percentages of different e-learning tools used as means of communication.

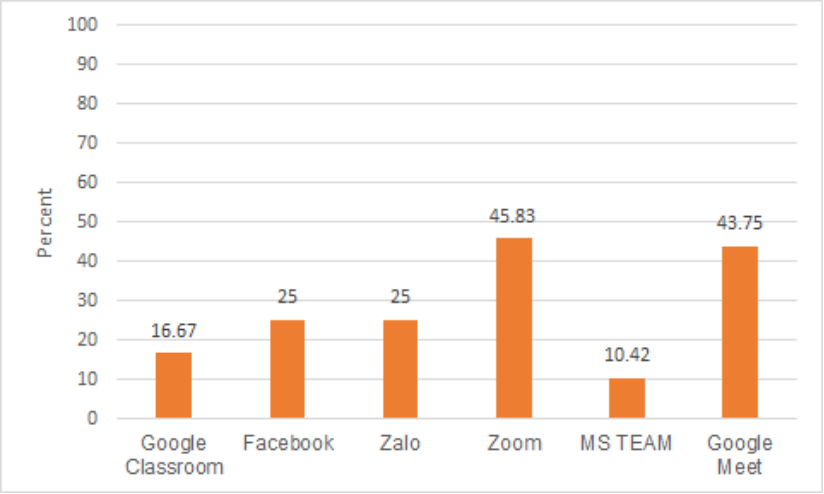

Figure 3. E-learning platforms used to communicate in online classes

It is clear that Zoom and Google Meet are used more frequently than the other platforms during teacher's lesson delivery (45.83% and 43.75% in the order). Facebook and Zalo show the same proportion with 25% each. MS TEAM, meanwhile, has the lowest rate with just over 10%.

The responses from the questionnaire reveal that communication takes place in various forms during teachers' online classes. It is statistically shown that most of the participants (44 teachers) disclosed that they were utilizing the e-learning tools mentioned above to deliver the lessons online. It, accordingly, means that two-sided communication between teachers and students is constantly created through direct or indirect interactions during the lessons. More than half of the teachers responded that they were using certain e-learning platforms to create opportunities for their students to communicate in speaking lessons. What is more, about one-third of the participants shared that they were making use of these platforms to let their students discuss the problems related to the learning tasks in pairs or groups.

The frequency of using the above tools to create different kinds of communication is varied, which is shown in the following chart.

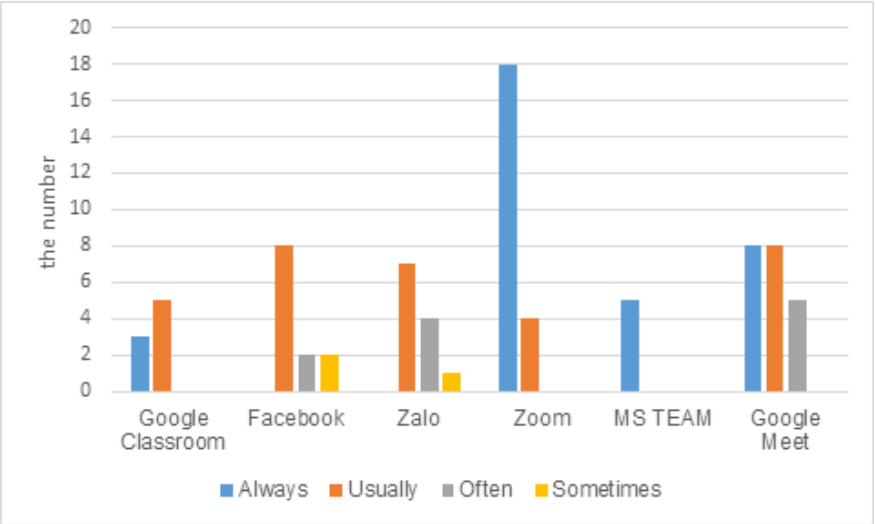

Figure 4. Frequency of using the e-learning platforms for communication

As can be seen, Zoom is the platform that most teachers always use to conduct distance teaching, whereas Facebook and Zalo are not invariably employed in online classes. Google meet and MS TEAM came as a second and third priority in teachers' choices of the tools for communication. On top of that, Google classroom, which is a decent means of indirect communication between teachers and students, is preferred by a few participants in their every online lesson.

4.1.1.3 Collaboration

Pertaining to collaboration, below is an array of platforms that teachers opt for in their online teaching.

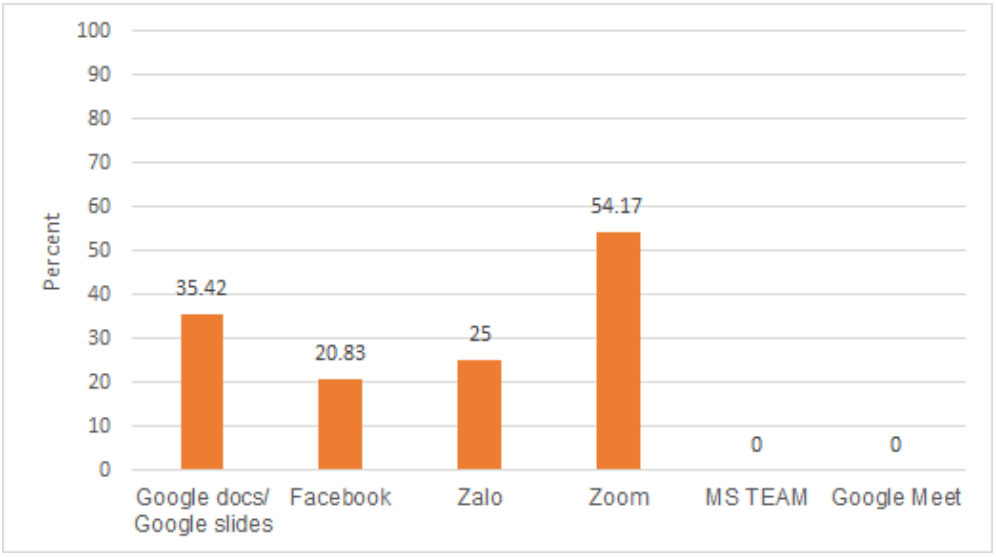

Figure 5. E-learning platforms used to create collaboration among students

From the statistics, there are only four platforms perceived to be used by teachers in their virtual classrooms. Apparently, Zoom was principally used by teachers to create collaboration, followed by Google platforms. By contrast, social media tools such as Facebook and Zalo took a back seat with 20.83% and 25%, respectively.

As shared in the questionnaire, the teacher participants informed that the purpose of using these means was to create collaborative group work. Specifically, nearly 70% of the teachers admitted that they let their students use the platforms to do exercises in groups, while 44.6% believed that these tools were useful for students to exchange cross-group feedback on writing. Only small numbers of teachers were making use of the platforms to have students carry out group projects (18%) and create group Powerpoint slides for oral presentation (22%).

These networked platforms were analyzed with a various range of frequencies in the following figure.

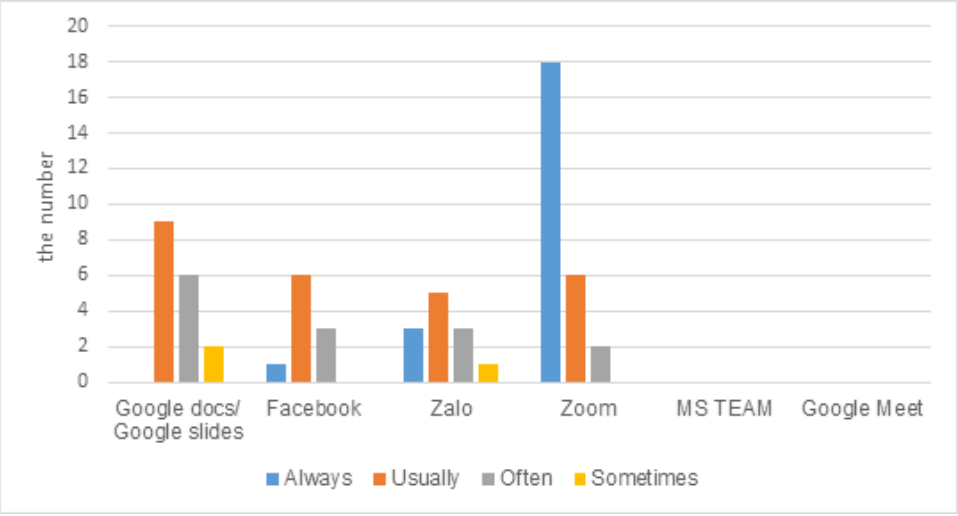

Figure 6. Frequency of using the e-learning platforms to create collaboration

It is clear that Zoom is the most preferred platform for collaboration purposes, with 18 responses from the totality of 48 teachers. On the other hand, Facebook and Zalo are infrequently used to facilitate collaboration among students in online classes. Although not always used, Google platforms are chosen by more teacher participants when it comes to what means should be used to support students' collaborative work.

4.1.2. Results from the interviews

Overall, the teacher participants had positive perceptions towards the platforms they were using in their online classes. The choices for the e-learning platforms were primarily derived from the functionality of the tools, the convenience they offer, the suitability of the lesson content, and the school's requirement.

4.1.2.1. Teachers' perceptions of platforms used for information provision

First, it was quantitatively shown that Gmail and Google classroom were the teachers' two most favorite means of providing information. The interview discovered that teachers' preferences for these platforms stem from their systematic storage of information.

> I always send learning materials and anything similar to my students via Gmail. They are kept in place in Gmail, so whenever the students want to find the materials again, they can quickly and conveniently do it by sorting out my email address on the platform. (T6)

> Google classroom is such an ideal channel to provide my students with learning schedules or class syllabi. I usually create a topic in Google classroom, where I upload anything related to the lesson for the day. In this way, the lesson content and other related documents are arranged logically in alignment with the topics of the teaching day. The students, hence, can visit and access them easily. (T4)

Furthermore, some other interviewees shared that they put Gmail on top priority over the other platforms because of its formality. The point is, in essence, to create discipline-based virtual classrooms at the tertiary level where formality is a must.

> I choose Gmail rather than social networking platforms such as Zalo or Facebook simply because Gmail offers a more formal environment for Education. I see that Facebook or Zalo are just mostly used for playing, not studying. (T2)

A few teacher participants, by contrast, favored certain social networking sites such as Zalo, Facebook or Viber because of the instantaneous conveyance of information brought by the platforms.

> Honestly, Zalo is so popular that everyone has an account. I can send a message on the Zalo group with my students and receive responses and feedback on the spot. Zalo is such a useful tool for sending information related to the lesson to my students. (T6)

> Some of my students informed me that they did not have a Gmail account. However, all of them have Facebook accounts. Therefore, I decided to use this social networking site to post the class meeting time as well as other necessary announcements. (T5)

4.1.2.2. Teachers' perceptions of platforms used for communication

Communication is perceived to take up most of the online class time. In the interviews, it is clear that there are three primary reasons accounting for the teachers' preferences for these e-learning tools.

First, some teachers stated that they were merely allowed to use certain platforms to conduct online teaching as requested by their schools. As a teacher from Ton Duc Thang University shared, English teachers in his departments were required to choose either Zoom or Google meet to deliver their lessons online. Meanwhile, another teacher from Van Lang University claimed that she was supposed to use MS TEAM as it was the only platform on which the whole university's online teaching system was running.

> In my university, we have to use MS TEAM and have no other choices. My school supplied each teacher with a paid account, and we can use it free of charge with full features available, which is so convenient… (T3)

Second, the limited features of the tools discourage the teachers from choosing them during their online teaching. A teacher interviewee confirmed that she would rather choose Google Meet than Zoom because the former is more convenient in terms of meeting time limits.

> My school didn't make us choose any platforms to teach online. We were free to choose whatever suited us. In my case, I am using Google meet to teach as it's free and does not limit the meeting time. Many others are using free Zoom accounts, and it's so inconvenient. The meetings stop every 40 minutes, which interrupts the flow of the lesson… (T7)

By contrast, another teacher participant favored Zoom over Google meet since the first platform was more functional than the latter, as in her opinion.

> My department suggested using either Zoom or Google meet for online teaching. However, I like Zoom more. I find it more convenient to teach via Zoom. It has many useful features that helpfully facilitate the teaching and learning process. For example, in Zoom, I can share audios with the students with ease or divide them into groups for discussion using the function called Breakout rooms. Google meet does not have such features, though... (T4)

Third, the teacher's IT literacy is also a decisive factor in the teachers' choices of the tools. Strikingly, some teachers confessed to their fear of technology in distance teaching. As a result, they were unwilling to employ certain platforms with complicated features.

> Honestly, I am so terrible at IT. It was so challenging to start teaching online. I tried out different tools and chose the simplest one, which is Google meet. I know Zoom is better because it has more functions. But it was so hard for me to handle some technical problems. I tried teaching by Zoom once, and one student just kept doodling on the screen I was sharing. I didn't know how to stop it, so I gave up using Zoom since then… (T2)

Concurring with the view, some other teachers also admitted their inability to use technology in teaching online and claimed that they were "technophobes". Consequently, they resorted to asking for help from other people to teach them how to use the basic functions of the platforms. A teacher from Saigon university was a case in point. From her sharing, she had to seek support from her twelve-year-old son on the use of Google classroom to post materials about the lessons. Understandably, those with telltale signs of nervousness about technology are middle-aged teachers, who are far behind the times compared to younger teacher participants.

4.2.3. Teachers' perceptions of platforms used for collaboration

Regarding collaboration, the suitability of the lesson contents was perceived to be the fundamental reason why there was a variation in the teachers' choices of the platforms.

> In my online classes, I use a mix of platforms when I want to assign students some work to do together. It depends on what task or assignment it is and how big it is. If there are just speaking activities, I would choose Zoom to invite the students into different rooms for the practice. If it is a writing task, I would let them write together using Google Docs. (T4)
>
> The kinds of collaborative tasks will determine which platforms I use accordingly. For example, there are some projects in my class in which the students are supposed to present orally in front of the class. Then I let them work in groups in the Breakout rooms to work on the visual slides together with the help of Google slides… (T7)

Moreover, according to the teachers, students can collaborate during online classes or outside of class time. This means students can cooperate directly or indirectly using certain platforms they prefer whenever they can.

> I sometimes assign some tasks as homework requiring the students to do outside the class hours jointly. They are free to use any social networking sites they prefer, such as Zoom, Facebook or Zalo, to contact and work together as long as they complete the tasks in the end. My students self-plan suitable time and tools to work with and accomplish their assignments. (T5)

4.2. Discussion

In this section, analyzed results grouped into three aspects: Information provision, Communication and Collaboration, would be discussed to explore teachers' preferences of using E-learning platforms and simultaneously investigate advantages and disadvantages of using these tools through teachers' perceptions. The results from the questionnaire with respect to Information provision indicated that six e-learning working sites (Google classroom, Gmail, Facebook, Zalo, Viber, Google drive) more or less receive teachers' and students' inclination. Furthermore, these platforms were chosen as announcement tools or material distribution ones. The teachers' responses made close connections with Wilson's (2012) and Liu et al. 's (2013) theories about the first component, Information provision or Administration, mentioned in the "Literature Review" part. Responses from the teachers' interviews showed that there are different perceptions in choosing these tools. Many teachers chose their favorable platforms like Gmail or Google classroom because of these tools' usefulness and formality. However, many universities indeed set a rule to deliver necessary documents to students via Gmail and Google classroom. The two tools, therefore, have become teachers' must-use choices. Additionally, many of the teachers choose Google classroom and Gmail because they perceive the others which are suitable for recreational purposes in lieu of learning aims. Consequently, they expressed doubtful perceptions about social networking platforms such as Facebook or Zalo. By contrast, social media platforms were perceived positively by some younger teacher users thanks to their quick feedback with the aim of exchanging information. This result is consistent with the theory that Cain (2008) discussed in part "Literature Review." In general,

these e-learning tools used for online-delivered lessons or documents show extremely effective functions and aid students in accessing learning materials efficiently. This result from the interviews is in accordance with Schulten's (2020) opinion stated in part "Introduction."

In relation to communication, teachers reported in the questionnaire that both Google app platforms and social networking tools create an active learning environment for students to interact and communicate content related to the lessons, which is similar to Gikas & Grant's (2013) viewpoint about the strong points of these tools. As Huffman (2013) mentioned in the theoretical section, students were sent to interactive learning environments thanks to social media sites. This was proven in the interviews when teachers gave their answers on using these tools. Teachers also express insightful perceptions in terms of strengths and weaknesses when considering choosing the learning platform in online classes. Teachers choose Google Meet instead of the other tools because it increases accessibility without time restriction, which is in line with Ravi Shankar's (2012) concept stated in part "Literature Review" about the advantage of Google app platforms. Sometimes problems arise from technology users who lack advanced knowledge to work with innovative platforms easily. This finding is intimately linked to the findings shown in the studies of Mounjid et al. (2021) and Zalat et al. (2021) but yielded the seemingly contradictory finding with findings presented in the research of Almahasees et al. (2021) and Priyadarshani and Jesuiya (2021) mentioned in the second part. The teachers, hence, encounter difficulties in handling and manipulating top-notch functions of e-learning platforms.

Regarding the last component, collaboration, four out of six e-learning platforms took teachers' options as tools to support students in dealing with group work or pair work in the questionnaire result. Generally speaking, Google docs/ Google slides, Facebook, Zalo, and Zoom have become effective tools to comprehensively create a dynamic learning environment and promote students' collaborative ability. The findings are completely suitable with the theory Liu et al. (2013) implied in part "Literature Review" about functions of e-learning platforms. Besides that, the teacher respondents from the interview clearly show that students' choice of learning platforms depends on their needs. For example, students choose Google docs or Google slides because these applications allow multiple editors to simultaneously make changes to the same document at the same time. Students find this feature extremely useful and flexible to develop cooperation. In conjunction with these tools' usefulness, students can visually see all contents that other students are manipulating. This finding is closely related to Gewerc, Montero, and Lama's (2014) conclusion specified in part "Literature Review." What is more, students can approach these tools like Zoom, Facebook or Zalo to work together whenever the time is convenient for the whole group. This result is in correspondence with Ravi Shankar's (2012) concept given in the part "Literature Review."

5. Conclusion

In summary, the study found out that there is a wide range of e-learning platforms used by tertiary teachers in their online classes for different purposes, namely information provision, communication and collaboration creation. Generally, the participants have positive perceptions of these tools and make reasonable choices to use them to facilitate the process of online teaching and learning depending on the school's requirement, the functionality of the platforms, teachers' IT literacy and the suitability of the task types.

Based on these findings, it is pedagogically implied that teachers should be sufficiently equipped with IT-related knowledge and skills so that they are better prepared for their distance teaching. This can be achieved through practical workshops organized by the departments or schools to provide training about necessary IT skills and particular platforms they are supposed to use in their virtual classrooms. In addition, it is advisable for teachers to give students adequate instructions on certain e-learning platforms prior to the start of online classes to ensure students' efficient use of the tools in their learning. However, more than anyone, students also need to search for and equip themselves with fundamental IT knowledge to take full advantage of the e-learning platforms. Finally, as it is hard for teachers to manage students' learning progress in large-sized online classes, students are encouraged to take active roles in collaborative work when assigned by their teachers so that distraction and procrastination can be avoided to the fullest extent.

Regarding the limitation of the study, as the study was limited to the tertiary contexts in Vietnam, the findings are not used to generalize the research issue. Therefore, it is internally valid within the given contexts and just makes a humble contribution to the research on the same field.

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The Impacts of Technology-based Communication on EFL Students' Writing

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Abstract

Digital techniques play a significant role in stimulating EFL students' collaboration during the Covid-19 pandemic. The shift from face-to-face interaction to technology-based communication is regarded to foster language learning, especially writing classes. An action research design was employed to explore the influences of technology-based communication on either students' writing performances or their perceptions towards the new teaching method application. Data triangulation analyzed from three types of collecting instruments in terms of testing, questionnaire, and reflective journal indicates that the integration of Paragraph Punch, ProWritingAid, and LMS web-based platform boosts a more collaborative learning environment among online-engaging participants. The calculated mean scores indicated there was a decrease in students' difficulties regarding cognitive, emotional, and socio-cultural aspects after the intervention. Besides, it was respectively measured a potential trend on online collaborative group's writing performance concerning the task response, coherence & cohesion or the idea for writing development. Nevertheless, there was no significance in promoting students' lexical resources plus grammatical range and accuracy. The results also conveyed participants' optimistic feelings on technology-based communication, their higher self-confidence in accordance with positive attitudes towards writing lessons thanks to their awareness of their promoting critical thinking as well as error identification.

Keywords: LMS platform, Paragraph Punch, ProWritingAid, technology-based communication, writing skills.

1. Introduction

Technology is used in virtually every area of life, including education. As mentioned in the higher education curriculum, technology has become a new idea of teaching and learning activities (Kern, 1995; Quintero, 2008; Cifuentes & Shih, 2001; Pumjarean et al., 2017; Nasution & Fatimah, 2018). Universities have started offering technology-based courses where instructors educate students. According to Alias & Hussin (2002), Chau & Nguyen (2021), Bui et al. (2021), ICT has become a significant problem in many linguistic discussions nowadays. Chung et al. (2005) claim that the growing usage of computer-based learning resources helps students gather proof of their use of information technology inside their subject study (in this

instance, communication skills) rather than needing to do it separately. Van et al. (2021) state that when students utilize technology to communicate, such as email, they also demonstrate their communication abilities. The existence of coronavirus illness (COVID-19) has had a profound effect on human life across the globe (Nguyen et al., 2021). In education, the spread of this virus has had a fundamental influence. It exposes students to 'home-schooling conditions in every country, including the University of Economics - Technology for Industries (UNETI). This circumstance exposes students to the growth of online learning and the distant delivery of instruction through digital platforms. This forced digital transition is the most secure method of halting the spread of coronavirus outbreaks. As a result, the right of students to education remains paramount without jeopardizing their mental health or safety. For English as foreign language (EFL) students, navigating this online pedagogical environment throughout their term was also a problem.

In the writing course at UNETI, writing is a complicated skill that cannot be learned separately. Generally, students need a thorough grasp of writing theories and practical assistance from the instructor throughout their writing practice (Lin, 2009; Ndoricimpa & Barad, 2021; Le, 2021). They need guidance, criticism, and perhaps improvement throughout the writing process. Le (2021) and Nguyen et al. (2021) share the same view that long-distance learning from home is ineffective in assisting students in improving their writing abilities. According to Ly et al. (2021), this happens as a result of the short time available to students during virtual learning sessions with lecturers, errors in the presentation of content, and insufficient feedback on students' work. Meanwhile, online learning caused students to feel disconnected from their classmates and lecturers, less assisted by their professors, and disheartened by the technical demands associated with online study (Le, 2021). As a result, it requires suitable online writing tool platforms and websites to connect online learning activities between students and lecturers in order for students to get complete feedback and practice in online writing courses.

Elola & Oskoz (2010) and Ware & O'Dowd (2008) shed light on the improvement of students' fluency and accuracy with the assistance of peer-reviewing, thanks to online collaborative writing. Online discussions, stated by Black (2005), have the prospect to boost student curiosity and promote collaborative learning while also promoting reflection and critical thinking. Numerous studies by Chung et al. (2005), Cheung et al. (2006), Yunus et al. (2012), Khabbaz & Najar (2015), Pumjarean et al. (2017), Ariyanto et al. (2019), and Ly et al. (2021) have investigated the effectiveness of technologies such as Paragraph Punch, ProWritingAid, and a web-based learning management system in increasing student involvement and simplifying the peer review process. Students in online learning communities may create, share information, critical practice reflection, negotiate meaning, test synthesis, and build agreement to the central content. Students' knowledge construction abilities may be honed via online collaborative writing assignments, debates, arguments, and group discussions. As a result, constructive criticism is said to enhance the quality of student-student or student-teacher discussion responses. The virtual learning environment has a variety of merits, including improved feedback timeliness, additional learning opportunities for both feedback providers and

recipients, humanization of the environment, and community building via online participation.

In the context of UNETI, utilizing technology in teaching writing skills has not been drawn much attention. Although lecturers are aware of the potential benefits of digital advances to the teaching and learning process, educators have not integrated technology into their writing classes. Not until the outbreak of Covid-19 has technology been applied into language classes. This urged the researchers to examine the effects of online writing tools concerning Paragraph Punch, ProWritingAid, and LMS platform on English – majored students' writing performance at the university as well as their perceptions towards writing English and technology-based communication.

2. Literature review

2.1. Writing as a process

To give meaning to the multitude of thoughts racing through our brains, Quintero (2008) defines writing as a process during which a writer connects lexis by using grammatical structures to make it meaningful. For Mitch (quoted in Quintero, 2008), it is a process of discovery and creation. Writing requires students to think critically about the process of writing, including task responses, coherence & cohesion, lexical resources, and grammar range and accuracy acquired via language exposure. Quintero (2008) notes that both instructors and students value excellent writing abilities.

The process of teaching can be quantified as a process-oriented writing approach. It is more focused on the production of meaning than the task's primary goal. Nowadays, many English instructors organize their courses using a process approach, which emphasizes the different phases of writing (Harmer, 2004). It also demands instructors and students to plan, draft, edit, and finalize their work.

Planning: Using essential words and terminology to start writing. Harmer (2004) claims participants select what material to discuss before writing or typing. Some participants may need extensive information, while others may just need a few notes (Harmer, 2004, p. 4). So, while planning, the writer must consider the goal, audience, and content structure which are regarded as key elements driving to the writing stage.

Drafting: A draft is the initial version of writing work (Harmer, 2004). During the writing step, competitors must persuade and demonstrate their ability to combine words logically. They may now reuse language and resources to enhance their paragraphs, improving their writing fluency.

Editing: It refers to students revising their work after getting instructor criticism. Editing means that the text will be changed as many times as possible before it is finalized. According to Harmer (2004), writers typically look it over to evaluate and locate its significance after writing a draft.

Final draft: Students have to complete the final writing version based on instructor input. At this level, students are required to write w, considering grammar, topic, and vocabulary. According to Harmer (2004), authors create their final version after editing their draft and making the required adjustments.

2.2. Online collaborative writing

Definitions

Ede and Lunsford (1990) define collaborative writing as any writing done with others. These include brainstorming, outlining, note-taking, organizational planning; writing; revising; editing; and publishing. Farkas (1991) proposes four kinds of writing collaboration when two or more people firstly compose a text, secondly contribute components to a document, thirdly edit or review other's textual form and finally work interactively and conduct drafting.

Serial cooperation is added by Jaszi (1994), which claims two or more individuals work sequentially to brainstorm, correct mistakes, and expound on common subjects at the same time. With the advent of the Internet, cooperative writing has evolved to include the Internet as a writing medium. That the human mind can control a networked computer as a mediator of communication may change the way writing is taught and learned. Writing courses use technology-based communication because of the interactive, dynamic, and collaborative learning opportunities it provides (Ede and Lunsford, 1990). The prospect of networked computer technology along with the researchers' definition of collaborative writing may be extended to online collaborative writing. Online collaborative writing is face-to-face interaction. However, any activities and communication happening before, during, or after the online collaborative writing process may be considered online collaborative writing, which definitely is part of technology-assisted collaborative learning.

Online collaborative learning benefits and difficulties

In terms of cognitive aspects, Lindblom-Ylanne and Pihlajamaki (2003) investigating ate whether a computer-mediated learning environment that enables students to share drafts and get feedback enhances their compositions. This qualitative research included 25 law students. Interviews with students and teachers provided data for this research. The students gained knowledge, acquired critical and independent thinking abilities and self-regulatory skills. Implementing a technology-mediated class was also linked to excellent essay scores. Tuzi (2004) investigated the effect of electronic feedback on second-language authors' modifications. This research included 20 college authors. Students drafted, reacted, and edited on a database-driven website intended for writing. Students got spoken comments from friends and classmates, as well as face-to-face tutoring from university writing centers. Interviews, observations, written drafts, and participant answers were used to gather data. The research recognized students' preference towards vocal feedback, e-feedback but indicated their enhancement in revision via the process of focusing authors on uniting with new material to the

original work. Online feedback also influenced greater structural changes, such as sentence and paragraph alterations. Kern (1995) notes that networked computer systems have issues with grammatical correctness, conversation coherence, and continuity.

Regarding emotional aspects, Alias and Hussin (2002) investigated the efficacy of E-learning activities in students' writing processes. A stratified sample of 20 college students participating in an EFL writing course was chosen. The questionnaire was given out at the conclusion of each session, as were the logbooks containing student records of their online activities. A mood survey was also given at the start and conclusion of the program to assess the students' emotional changes. Email and online conversation increased students' drive, confidence and decreased anxiety. However, Alias and Hussin's (2002) research only had 20 individuals, which might not be generalized to other groups. Weasenforth and Meloni (2002) utilize constructivist concepts to assess how well-threaded conversations meet constructivist educational objectives. This qualitative research included 52 foreign students from advanced ESL reading/writing courses for three semesters. The research found that the technology reduced threatening emotions and increased motivation.

Concerning socio-cultural aspects, Beuchor and Bullen (2005) conducted a longitudinal study using a mixed-method approach to determine the amount and kind of interaction and interpersonal content in messages sent by online graduate EFL students. The qualitative data includes discussion forum content analysis. Quantitative data included counting and classifying content analysis units given to explanatory and response factors. This research included 16 doctorate students in education. The research found that fostering interactive and reactive online communications increases participation and debate depth, thereby facilitating online collective knowledge creation. The cultural problems of students' communication processes, for instance, interaction complexity and group cohesiveness, may influence their cognitive learning results. In an international languages class, Chung et al. (2005) used computer-assisted communicative activities to examine language acquisition as a socially mediated process. This research included 26 high school students. The research matched Korean and English-speaking classmates who worked together on chat homework tasks. The research found that online collaborative conversation helps cross-linguistic knowledge development. Using the meaning-making tools inside their local learning community, these students were encouraged to acquire and teach contextually relevant and acceptable language and social conduct. In other words, one partner's beliefs, language, and cultural practices may become the other's. Specifically, students gained self-awareness in regard to others. According to Cifuentes and Shih (2001), qualitative research was performed to identify certain online teaching methods, advantages, and limits of online education, as well as cultural factors connected with cross-cultural cooperation. 37 Taiwanese students were partnered with 37 American university pre-service instructors. Data were gathered through correspondence printouts, formative assessments, reflective diary entries, and surveys of Taiwanese partners. Participants highlighted difficulties related to virtual teaching and learning, such as reliance on an unresponsive partner and a feeling of alienation. Students were dissatisfied by the absence of quick or no peer response. A sense of alienation

caused by not knowing when an answer will arrive contributed to several students' complaints. Curtis and Lawson (2002) used a mixed-method approach to examine whether students' textual exchanges in an online learning environment revealed signs of collaborative learning. The research included 24 college students. The results showed that there are no visible difficulties in online contact since the majority of participants want to debate with what they agree, but they skim over concepts that contradict their background knowledge and are consequently unable to engage.

2.3. Paragraph Punch, ProWritingAid, and LMS platform as technology-based communication used in EFL writing classrooms

First and foremost, online writing assistance Paragraph Punch may help youngsters learn to write from home. This method aids students in organizing their ideas and learning to express themselves through writing. Besides, Paragraph Punch is an online tool for improving paragraph writing skills (Yunus, Salehi, & Nordin, 2012). Providing students with writing processes from conception to publishing. One of the most obvious advantages is its free charge to utilize the trial version of this site. This site offers 15 writing topics, and 1,548 writing prompts to help students write. It teaches students to write paragraphs utilizing logic and facts as w as causes and effects. Paragraph Punch teaches learners efficient paragraph construction. On this site, prewriting is needed. The students choose their own subjects, which apparently encourages them to utilize current terms as well as offers questions to help students brainstorm. Unlike traditional courses, when students collaborate with the teacher, students on this site use writing software. Next, the program shows a sample topic sentence that could help start a paragraph. Moreover, lessons involve creating sentences using pre-written words, which encourages writers to bring them up to sentences. The sentences must also be arranged in a paragraph. Not only may overlong sentences be deleted, but Paragraph Punch also offers transition words as well. In addition, the program initially provides an example of a conclusion. The students are then asked to compose a conclusion. Input objects may be moved around the screen, so this content may be edited by students. Then they may save or print their work. Several studies indicate that Paragraph Punch improves writing skills. Lin (2009) states that ParagraphPunch helps with spelling and writing, Yunus, Salehi and Nordin (2012) claim that Paragraph Punch is a great way to teach writing to young children. Paragraph Punch teaches new writers how to create paragraphs step-by-step. Lin (2009) investigated the effect of Paragraph Punch and other technological aids on the self-perception of writing difficulties among English-language learners. She mentioned many benefits of Paragraph Punch, including spelling check and process reinforcement. Additionally, she discussed some of the software's shortcomings and the consequences of technology in the writing classroom (Lin, 2009). Nevertheless, this research maintains that it is crucial as the instructor's views of the software's value as a writing tool are no less significant than students' opinions, giving the teacher's pivotal role in the classroom. Sharing the same view, Yunus, Salehi, and Nordin (2012) examined pre-service instructors' views of Paragraph Punch for helping novice writers. This program was intended to assist English language learners in developing and organizing paragraphs for essay

writing. Through a questionnaire survey of third-year students at a public institution in Malaysia, this study ascertained their attitudes about the usage of Paragraph Punch as a possible writing aid. The data analysis revealed that respondents owned a favorable taste of this writing application for novice writers. The author additionally highlighted its design should be improved to be more interactive and visually appealing in ESL writing.

In the second place, ProWritingAid is a new free online tool that checks the text for correctness (Ariyanto, Mukminatien, & Tresnadewi, 2019). This program helps self-editing writers by assisting with SPAG evaluations (Spelling, Punctuation, and Grammar). Students may self-assess their writing skills by running this program and getting a report and score. To be more illustrated, ProWritingAid is a useful tool for students who study at home. This program enables students to revise and test their work without waiting for comments. They may instantly verify their piece of writing for spelling, grammatical, and punctuation problems. Additionally, students are corrected and explained their errors. Corrective feedback comprises the sign, correct form, and metalinguistic information regarding a student's linguistic mistake (Loewen & Erlam, 2006). As a result, they may self-evaluate their writing, which enriches students' writing development. Teachers and students alike praised ProWritingAid and instructor comments in class, according to Ariyanto, Mukminatien, and Tresnadewi (2019). It aided teachers in providing feedback and allowing them to devote more time to the content and organization of students' paragraphs and students in detecting, learning, and correcting their papers. ProWritingAid has been recognized the benefits of online writing tools to EFL students during the Covid-19 epidemic in Natution and Fatimah (2018) and Handayani (2020). Those researchers investigated that the difficulties students encountered while learning to write stem from the instructors who were not innovative in their approach to teach writing. ProWritingAid is tasked with the responsibility of resolving the issues. By incorporating professional writing assistance into the writing instruction process, students could become more engaging. The web was user-friendly and aided instructors in communicating with students about the contents. Teachers may successfully educate students about writing by using professional writing aids, and students can study on their own to acquire the knowledge as well.

Last but not least, LMS stands for Learning Management System, which is regarded a server-assisted software. To be more specific, LMS can tackle database information about users, courses, and material for a specific purpose, for instance, a business or education. Sidney Pressey invented the LMS in 1924, dubbed the "teaching machine. Whether open-source or proprietary, LMS software provides users with four primary features: content production, communication, assessment, and administration. As a result, instructors and administrators may effectively administer the LMS depending on their unique requirements. In the educational context, LMSs are developed in response to teachers' needs for managing students' paths of learning in an online classroom, monitoring their performance, creating and distributing content, organizing e-learning activities, evaluating, and providing tools for communication, collaboration, which means that LMSs are robust technologies that teachers can use to create their own online courses, administrative purposes, documentation, reports on activities, virtual

teaching, and learning activities, e-learning, and provision of training materials to their students. Additionally, this function of LMS, what they referred to as an e-learning platform, is a very flexible technology that enables teachers or lecturers to submit course content and manage a large amount of online course information in a single integrated LMS really offers space or atmosphere for virtual teaching, learning, and activities that is self-contained and devoid of time and space constraints. Additionally, the use of LMSs in the pedagogical field is well-known. Its benefits have been experimentally shown; particularly, language learning via LMS-based teaching materials impedes the procedure of becoming independent language learners (Khabbaz & Najjar, 2015). In Malaysia, LMS has aided higher-education students in improving their writing skills as well as their comprehension of certain subjects via explanations and examples provided by either classmates or professors (Hamat et al., 2014). Additionally, LMS has enabled a number of advantages over conventional systems for teaching a foreign language, most notably in arranging individual work. The use of LMS in writing class has resulted in good and encouraging student responses. This demonstrates that students in Hong Kong who used LMS truly appreciated the incorporation of technology (Cheung et al., 2006), in accordance with positive views about the use of LMS platform in productive-skill courses in Iran (Ma'azi & Janfeshan, 2018). Meanwhile, research conducted in Thailand by Pumjarean et al. (2017) discovered that LMS is a viable and affordable, and effective educational tool for improving EFL students' writing and grammar abilities in a blended-eLearning environment.

2.4 Research Questions

This research will discuss firstly the influences of online writing tools in terms of Paragraph Punch, ProWritingAid and LMS platform on English – majored students' writing performance at UNETI and secondly investigate students' perceptions towards writing English and technology-based communication. Hence, three research questions were addressed.

a) What are students' perspectives towards writing in English at UNETI?
b) To what extent does the use of Paragraph Punch, ProWritingAid, and LMS platform influence the students' writing performance at UNETI?
c) What are the students' perceptions towards the use of Paragraph Punch, ProWritingAid, and LMS platform in writing classes at UNETI?

3. Methods

3.1 Pedagogical Setting & Participants

The research included 18 UNETI English-major freshmen which are evaluated to be at a pre-intermediate level of English proficiency via the entrance exam and their academic transcript at high school. Their textbook is "Writing" published by Collins. They have to pass the V-step standardized exam at the end of the semester to accomplish this required subject. The writing exam assesses students' ability to construct basic phrases, compose memos, messages, postcards, letters, and emails. It lasts 35 minutes and has three tasks. Task 1 is building sentences in which test-takers complete five sentences with suggested words or phrases. Task

2 is writing a memo or a message that test-takers have to complete an everyday writing task, such as a short note, a memo or a message. Task 3 is writing a letter or a postcard: test-takers may complete a variety of communication tasks by writing a letter or email.

3.2 Design of the Study

Creswell (2014) defines action research as combining research with action. Action research aimed at addressing issues, bringing about social change, or taking practical action should be done by all instructors at any time. To cope with multi-cultural groups, it included four steps: planning, acting, observing, and reflecting. Creswell (2014) examines action research's main features. Firstly, action research studies real-world problems and seeks to address them. Secondly, action research helps them better understand and enhance their teaching methods. Action research also includes numerous individuals and groups whose responsibilities may change and be negotiated. Furthermore, action research is a cycle of issue contemplation, data gathering, and action. Finally, action research findings are readily disseminated and utilized by teachers, school staff, parents organizations, and other stakeholders. On the basis of those typical characteristics, the researchers decided to investigate action research with the aim of exploring the use of technology-assisted communication on students' writing at UNETI.

3.3 Data collection & analysis and research procedure.

Data collection and analysis

The first data collection instrument is a 42-item questionnaire that measured self-perception of writing problems on three scales: cognitive, emotional, and socio-cultural difficulties. Writing in a foreign language requires integrating cognitive and linguistic elements of writing concurrently, making an apparent distinction between linguistic and cognitive characteristics. There were 25 questions assessing the cognitive dimension, 5 measuring the social component, and 12 measuring the emotional dimension. The questionnaire ranged from "strongly disagree" to "highly agree." For each item, the highest score (6) represented the most difficulty in writing, while the lowest score (1) indicated the least difficulty. When a neutral opinion is provided, almost all the questionnaire-takes may prefer to accept this view; thus, no definitive opinion is expressed (Brown, 2001). To prevent this, the researchers gave responders an equal number of choices. A six-point Likert scale included (1) *Strongly Disagree, (2) Disagree, (3) Somewhat Disagree, (4) Somewhat Agree, (5) Agree, and (6) Strongly Agree*. Multiple versions of the questionnaire were evaluated, revised, and edited by lecturers from the Faculty of Foreign Languages to ensure content validity. Besides, the Cronbach's Alpha was calculated via SPSS version 22 at 0.81 to varify the reliability of the questionnaire, which is shown in Table 1

Table 1: Reliability statistics of the questionnaire.

Cronbach's Alpha	No. of items
.81	42

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

The second data set consisted of students writing tests. The researchers administered pre- and post- Vietnamese standardized writing tests of English proficiency (Vstep) to the participants to determine the differences between students' writing performances before and after the intervention with technology-based communication. The writing tests were academically chosen from the exam bank designed and revised by Faculty of Foreign Languages lecturers for Writing 1. The tests were assessed and evaluated with four criteria in terms of task response, coherence & cohesion, lexical resource, grammatical range, and accuracy.

Another important data collecting tool is the reflective journal. All reflection diaries were thoroughly reviewed several times and then classified. On the first reflection notebook, the researchers started by making notes on possible themes relating to writing problems and problem-solving methods. Following that, a separate list of topics for the second reflection diary was created. The two lists of emerged categories were found to be condensed when compared. First, the reflection journals were evaluated using this master list, and then additional categories were included as needed to support the research themes. To verify the data's reliability, the researchers had the coded data evaluated independently by one qualified qualitative analysis.

Research procedure

The research was conducted as in the table below

Table 2: The procedure of the research

Week/ date	Class activities
Week 1 (March 29th – April 3rd)	Researchers: - Identified problem and planned the action research. - Introduced writing classes with technology-based communication. - Carried out the questionnaire and the pre-test.
Week 2 (April 5th – April 10th)	Writing instructions: - Teacher instructed students with specific topics writing tasks relating to the textbook. - Teacher guided students to use Paragraph Punch, ProWritingAid, and LMS.

Week 3 – Week 10 (April 12th – June 19th)	Students: - Used LMS to check for teacher's instruction, assigned tasks or requirements, online discussion, or conversation. - Practiced writing step-by-step with Paragraph Punch, completed the first draft. - Checked errors and mistakes on ProWritingAid. - Peter checked their mates' drafts. - Discussed the comments and feedbacks to find the most appropriate way to fix the errors. - Wrote the second draft. - Posted both drafts on LMS. - Wrote reflective journals every week.
Week 11 (June 21st – June 26th)	- Carried out post-test.

4. Results

4.1. Students' self-perceptions about writing in English.

The participants completed a questionnaire in which they were asked to rate items on a questionnaire titled 'Self-Perceptions of Writing Difficulties' from strongly disagree to strongly agree. The questionnaire assessed three facets of writing difficulty: emotional, social, and cognitive. Although some questions may span dimensions, they were classified in this questionnaire according to their literal meanings without regard for the interconnections between these three aspects of writing. Three open-ended questions were added to the questionnaire to allow for a more in-depth analysis of English writing problems. Table 2 presents descriptive statistics indicating the relative importance of specific items from the most difficult to the least in terms of three-dimensional aspects.

Table 3: Descriptive analysis of Self-Perceptions of Writing Difficulties

No.	Dimension	Items	Mean	Std. Deviation	Rank
1	Emotional	I like to write in English	3.03	1.31	34
2	Cognitive	It is easy for me to get started writing English	3.92	1.28	15
3	Cognitive	It is easy for me to keep my English writing going and write smoothly	3.92	1.02	15
4.	Cognitive	I write short and simple English sentences	3.88	1.30	20
5	Cognitive	It is easy for me to write my ideas into English paragraph	3.79	1.02	23
6	Cognitive	I find it difficult to generate ideas for writing	4.04	1.08	11
7	Cognitive	I find it difficult to use articles	3.50	1.45	28
8	Cognitive	I find it difficult to use prepositions	4.08	1.10	10
9	Cognitive	I find it difficult to use verb tenses within	3.04	1.12	33

		a paragraph			
10	Cognitive	I find it difficult to order words in English sentences	3.21	1.29	32
11	Cognitive	I have difficulty with word choice	5.01	.97	1
12	Cognitive	I find it difficult to usepunctuation	3.33	1.34	30
13	Cognitive	I use few idioms	4.50	1.69	5
14	Cognitive	I find it difficult to sp correctly	4.21	1.18	7
15	Cognitive	I find it difficult to generate ideas for writing	4.04	1.08	11
16	Socio-cultural	I find it difficult to adjust my way of writing in native language writing	4.97	1.07	2
17	Cognitive	I am aware of what sentence fragments are, but I still use them	4.00	1.14	14
18	Cognitive	I am aware of what sentence fragments are, and I don't use them	3.58	1.35	26
19	Cognitive	I know what run-on sentences are, but I still use them	3.38	1.61	29
20	Cognitive	I know what run-on sentences are, and I don't use them	3.38	1.44	20
21	Cognitive	I find it difficulty to go from one paragraph to another with smooth, w-connected transitions	3.79	1.21	23
22	Cognitive	I feel that I find it hard to write logically and systematically in English	3.92	1.25	15
23	Cognitive	I find it difficult to write a topic sentence	4.21	1.18	7
24	Cognitive	I find it difficult to focus on the main points	3.92	1.10	15
25	Cognitive	I find it difficult to organize ideas	3.88	1.44	20
26	Cognitive	I find it difficult to summarize my points to conclude the writing	4.17	1.13	9
27	Cognitive	When writing a paragraph, I find it difficult to write a topic sentence, body sentences, and a concluding sentence	4.04	1.08	11
28	Cognitive	What I write in the beginning and at the end of the paper is not consistent and logical	3.54	1.22	27
29	Cognitive	I stop many times to think about what to write during my writing process	4.78	.87	3
30	Emotional	I am anxious when writing in English	4.58	1.18	4
31	Emotional	I am confident in my English writing	1.64	1.02	41
32	Emotional	I have confidence in English writing	3.71	1.49	25
33	Cognitive	I don't have enough time to finish my English writing papers	3.92	1.18	15
34	Emotional	I feel comfortable with reviewing my papers in English	3.33	1.31	30
35	Emotional	I like to use technology-based apps in my writing class	2.45	1.27	36
36	Cognitive	I am a skillful English writing	4.25	1.32	6
37	Socio-cultural	I feel comfortable with sharing my English writing with my peers	2.28	1.01	37

38	Socio-cultural	I like to share my English writing with my English teachers	1.68	.77	40
39	Socio-cultural	I feel comfortable with sharing my English papers with lecturers	1.92	1.06	39
40	Socio-cultural	I like to give feedback and comments to my peers' papers	2.03	1.07	38
41	Emotional	I think my writing papers are well-written and meaningful	2.47	1.35	35
42	Emotional	I am motivated to learn English writing in the future	1.27	.46	42

Participants agreed that the primary writing problem (M=5.01; SD=.97) was word choice. Participants stated in their open-ended responses that they typically looked up unfamiliar English terms in the bilingual dictionary when they were unsure. However, students often reported that translations from a multilingual dictionary came out as a mishmash of words.

Adapting to native thinking patterns (M=4.97; SD=1.07) was the second most challenging aspect of writing. Numerous participants stated that they struggled to adapt their native language writing styles to American thinking processes. Students continued to think in their original language and utilized their first language's rhetorical tendencies while writing English essays. Numerous students said that they struggled to transition from their native language's linear rhetorical aspects to English linear rhetorical ones. Because writing patterns or styles are either linguistic or culturally entrenched, several respondents in this research discovered that it requires some effort to adjust to new thought patterns while communicating in written English.

Writing fluency (M=4.78; SD=.87) was the third most challenging kind of writing. Students indicated that they often pause to consider what to write while writing English essays. They often ponder for long amounts of time yet come up with just a few words to describe a very complex concept; as a result, they have significant difficulties with fluency.

The least difficult item is defined by the mean score of all items that are less than or equal to 3 (3.54 - .44=3). Participants generally struggled less with emotional and social elements of writing. For instance, students hardly find writing in international language tedious or meaningless (M=2.47; SD=1.35), nor did they hate technology-based apps (M=2.45; SD=1.27). Students had no difficulties sharing writing with other English language learners (M=2.28; SD=1.01), providing feedback to others (M=2.03; SD=1.07), or reviewing with professional writers (M=1.64; SD=1.02).

In general, participants dealt with the next eight elements of writing at the least frequency. The least challenging aspect of learning English writing was motivation (M=1.27; SD=.46). While participants are aware that they may not be excellent English writers, they are driven to improve their English writing skills in order to succeed in academic writing.

Confidence in native language writing (M=1.64; SD=1.02) was the second easiest writing

problem to solve. All participants said that they were more confident in their native language writing than they were in English writing. They had been writing in their original language for a lengthy period of time and were familiar with the structure, conventions, and vocabulary.

Sharing writing with English instructors was rated as the third least challenging writing problem (M=1.68; SD=.77). The majority of participants stated that they were used to writing for a grade and therefore had no reservations about allowing English instructors to view their work or sharing their essays with English teachers.

The mean for cognitive, emotional, and socio-cultural elements of writing was calculated using the average score of all 18 participants on questions classified in each of these categories. Table 4 demonstrates the mean score and standard deviation of three dimensions.

Table 4: Rank on the overall mean score and standard deviation of three dimensions

	Overal Mean Score	**Std. Deviation**	**Rank**
Cognitive Dimension	3.92	.54	1
Emotional Dimension	2.79	1.21	2
Sociocultural Dimension	2.56	1.02	3

Further examination of the questionnaire data demonstrated that students struggled the most with cognitive elements of writing (M=3.92; SD=.54). The emotional dimension of writing (M=2.79; SD=1.21) was the second-ranked writing difficulty categorization, followed by the sociocutural component of writing (M=2.56; SD=1.02).

4.2. The influences of Paragraph Punch, ProWritingAid and LMS on students' writing performance.

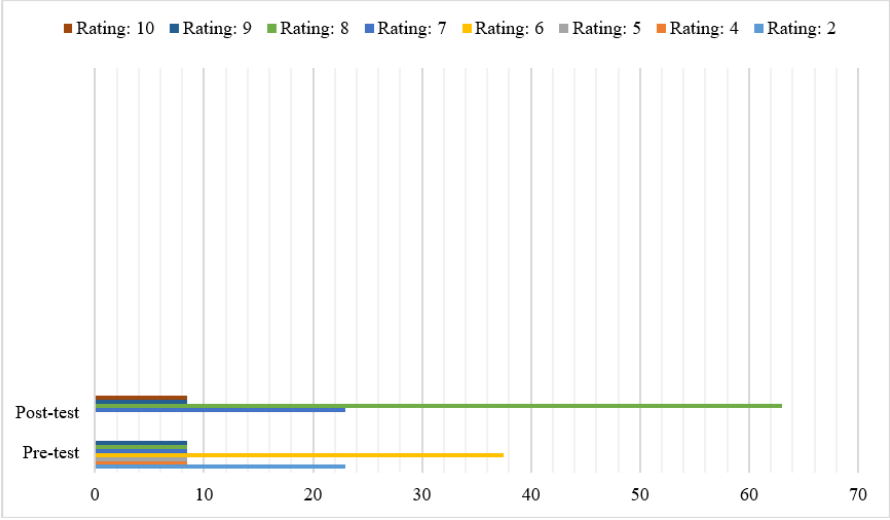
The Vstep standardized pre- and post-writing tests were analyzed to see if the participants scored substantially higher on the post-test. Students' pre-test and post-test were graded using the four-criteria assessing rubric. Table 4 shows the means and standard deviations for the pre- and post-test administrations of the writing performance measure, as was the % increase from pre- to post-test for the participants.

Table 5: Mean score, Standard Deviations and Percent Gain of the pre- and post- test

	N	Mean score	Std. Deviation	Percent Gains
Score on Test before treatment	18	2.64	1.13	51%
Score on Test after treatment	18	4.01	.42	

When the time effect was examined for the online writing students, the tests of within-subjects effects revealed a significant main influence for treatment over time, F = 37.63, P=.00 (.01), Partial Eta Square=.63. This indicates that the participants had substantially higher mean writing scores (performance) on the post-test than on the pre-test. Figure 1 displays the distribution of scores on pre- and post-intervention test. This distribution represents the change in rating scores from pre-intervention and post-intervention test.

Figure 1: Distribution of scores on pre- and post-intervention test



Comparing mean writing scores from pre-test to post-test, students' post-test writing paper demonstrated improvement in the following areas: ideas (from analyzing the topic and task, the restraints to addressing the requirement well); organization (from decent organization to well organized); and multiple opinions (from using insufficient to sufficient explanations, or details). Additionally, when raters' feedbacks about students' writing weaknesses and strengths between pre-test and post-test writing samples, it was discovered that students made progress in terms of ideas (84%), organization (100%), multiple perspectives (92%), and adequate arguments (92%) (100%). Students wrote more (the average amount of words written increased by 82% between pre-test and post-test). However, as shown by raters' remarks, students continued to struggle with word choice (100%) and grammar (articles and run-on sentences). 91.5% of participants continued to struggle with articles, while 77% struggled with run-on sentences.

4.3. Students' perceptions towards the use of Paragraph Punch, ProWritingAids and LMS in writing classes.

Through the analysis from reflective journals, most e-writing participants said that they promoted their views, reasoning, and substance in writing by reading from the writings of other people, from comments and feedback on the technology-based discussion forum, and from journal entries reflecting the activity on those online resources. Having comparable cultural backgrounds, the students were better able to grasp their roles and significance. Many students reported learning the concepts of organization, word choice, transitional words, coherence and cohesion, and grammar from reading online native speakers' feedback. The survey revealed that, in general, they felt that they had built up their organization, since their organization was quite similar to many other organizations they had encountered. But most thought it would take longer to enhance their writing by choosing better words, or by editing and revising. Even after considering a multitude of terms, they still found it difficult to choose the most suitable one. Students still struggled with how to properly use articles in run-on sentences. One of the students reported that:

> *I always write what I believe. My reasoning, thoughts, and examples are often subjective. Reading other online posts frequently gives me additional arguments and instances to defend my own viewpoint. Also, some peers may point out my poor arguments or thoughts and propose ways to modify them to include other viewpoints. Other mates may grasp my meaning and culture better than I do. And then there are the online native-speaking instructors who give me advice on how to improve my grammar and organization. Online practice with corrected academic feedback is extremely beneficial. I frequently make these unintentional errors, and self-editing these errors is difficult for me. Online immediate feedback may help me improve my writing.*

In addition, these writing software programs assist writers in fixing fundamental grammatical mistakes and provide recommendations for improvement. Statements regarding spelling and grammar check were written as follow:

> *As soon as I recognize the word's pronunciation, Paragraph Punch may verify my spelling and grammar. I don't have to stress spelling and punctuation.*

The process of brainstorming ideas, creating drafts, rewriting, editing, and posting online helped six participants develop the habit of writing.

> *Paragraph Punch and ProWritingAids encourage me to compose a draft, rewrite, edit, and finally publish. It helps me develop the habit of writing. Writing takes time, but when you complete it, you feel accomplished.*

All nine participants' data collected in the writing program and online discussion helped them see trends in their writing faults. This type of writing mistake awareness lets individuals self-

evaluate their writing issues and find solutions.

> *I used to think I had a problem with word choice. However, my Paragraph Punch error record and internet comments revealed that I have a lot of issues utilizing articles. My feeling of choosing the correct option is like speaking English with an accent.*

Most of the participants said that reading others' writing papers and responses on LMS-based forum gave them numerous ideas and insights. Online writing and conversation offered them more options for editing and enhancing their work than writing alone. Moreover, online comments and recommendations provided opportunities for correcting grammar, sentence structure, and word choice. Peer criticism and comments improved participants' knowledge of grammar rules.

> *Online peers' comments may help me identify poor reasoning and instances and provide alternative suggestions. Some of my online peers even disagree with me. It helps me see things from a different viewpoint and get a better overall grasp of a situation.*

Several students said they liked threads. They said a comment thread from every draft they uploaded online helped foster critical thinking abilities. The numerous suggestions/comments from discussion topics/concerns helped them improve their critical thinking abilities. Participants typically have to read feedbacks and recommendations attentively, assess the input, and decide which suggestions to implement and which to reject. Participants had to think critically while providing constructive comments on other people's drafts and subjects to assist their peers in improving their writing quality and providing recommendations for writing issue solving methods. The online comments encouraged participants to think critically about how to improve their writing for their peers.

> *Feedback and recommendations help me think about my exemplification in more critical ways and thoughts and select those that fit mine. To help me think critically and make choices, I sometimes study my subject on the Internet.*

In short, students' writing performance increased between pre-test and post- assignments. Paragraph Punch, ProWritingAid and LMS as online tools contributed to students' writing quality, organization, and utilization of various viewpoints. However, the technology-based communication had no effect on students' word choice, articles or run-on sentences.

Almost everyone stated they felt more relaxed and confident while writing and chatting online. It was important to them that they were able to communicate and share their thoughts. They were writing in an online setting, they did not have to worry about embarrassing themselves. One respondent stated:

> *My criticism helps me improve my writing skills and understand why I make recommendations. It makes me question why these ideas are superior. Others may have*

opposing views. They debate on the LMS forum. Like sharing ideas and resolving conflicts.

They were able to think and write better after reducing their anxiety levels. It encouraged them to keep writing when they saw their ideas put down. So they started writing more like they were speaking, and they improved their online writing and conversation skills.

Participants are additionally more self-assured in their English writing. Most participants were insecure about their English composition before the intervention. They gained confidence in their English writing after participating in internet forums and writing contests. They realized they could benefit themselves by using online English websites. A collaborative online learning community where everyone may edit, rewrite, and improve English writing was created by Paragraph Punch, ProWritingAids and LMS.

Incorporating technology-based into writing teaching seems to be gaining popularity among students. Participants reported benefits in their writing processes as a result of technology-based techniques. Cognitive, emotional and socio-cultural aspects were all benefited. Grammar and spelling checks, writing process reinforcement, pattern recognition, strengthening various viewpoints, and critical thinking abilities are some of the cognitive merits. Structure and logic were gained by the socio-cultural component. Furthermore, the advantages of decreasing anxiety and boosting confidence were psychologically significant. The learning community discussed and exchanged problem-solving and writing techniques throughout the writing process. Online conversation and engagement helped foster metacognitive and higher-level cognitive skills. It also highlighted students' roles in classrooms. The instructor just facilitated, not designed activities and objectives individually. Students negotiated and contributed to their own learning objectives and activities.

5. Discussion

Many of the top writing problems reported in this research match earlier results regarding students' writing difficulties, particularly linguistic (Lindblom & Pihlajamaki, 2003; Lin, 2009, Le, 2021) and rhetorical (Tuzi, 2004; Kern, 1995). students have unique writing requirements since they are transitioning from one writing culture to another. Students have the greatest challenges in terms of cognitive dimension (Handayani, 2020). Writing fluency was rated third in writing difficulty. Due to a lack of functional repertoire vocabulary, students had to pause often to choose an English term. Students also tended to think in their native language before writing in English. They often had to pause to consider word choice, word order, phrase structure, and organization. However, culturally engendered rhetorical problems go beyond cognitive limitations (Farkas, 1991). When students write, their vocabulary is restricted. They go to the bilingual dictionary because of the certainty in native language. Using a multilingual dictionary does not completely address the issue since they must again select between various interpretations of the term. The research found word choice to be the most challenging to write. Term choice demands authors to choose the word that best conveys the intended meaning. This

pick considers the word's meaning, the communication's goal, and the audience. Language must be chosen according to the goal and audience. This needs traditional and cultural information that may not be able to quickly learn (Jaszi, 1994). The majority of students struggle with this re-learning process. This study's results also indicate that students' second most significant writing challenge is emotional deficit. This supports earlier research (Alias & Hussin 2002; Weasenforth & Meloni, 2002) showing students were challenged with writing due to emotional issues. Writing anxiety is common among s due to a lack of confidence in English writing. Emotional issues may negatively affect s' writing processes and performances.

This study's results are consistent with prior research on students' writing problems. Most participants blamed their writing problems on cognitive deficiencies. The research found that students exhibited second-level involvement in affective writing inadequacies and third-ranked needs in socio-cultural writing issues. Few prior research focused on students' emotional or socio-cultural writing problems. This study's findings suggest that perceived writing problems are greatest in cognitive, second highest in emotional, and lowest in socio-cultural dimensions. The first reason is that most students' essays are graded and given feedback on cognitive elements of writing. Generally, students' writing experiences and views concentrate on performance and product writing.

The findings additionally show that when students are taught utilizing technology-based communication, there are statistically significant changes between pre- and post-test writing proficiency. Students improved in amount of writing, structure, topic sentence, concepts, spelling, and utilization of different viewpoints. Less fluency, organization, clear concepts, spelling, and numerous thoughts are associated with technology-based communication, according to prior research (Cifuentes & Shih, 2001; Lindblom-Ylanne & Pihlajamaki 2003; Tusi 2004). However, students' grammatical structures (run-on sentences and articles) and word choice did not improve. The findings partly support Kern's (1995) conclusions that networked writing settings have grammatical drawbacks due to the rapidity of writings. The impact of technology-based communication on students' writing performance may be explained in many ways. It could be explained that they were led to producing a paragraph via personalized online tutoring writing courses and activities like Paragraph Punch, ProWritingAids. Students stated they improved their writing skills in these areas because they were led step by step through the process of writing. Secondly, viewing their peers' online work and comments helped them revise and improve their own writing. Thirdly, students thought online writing was like chatting to friends. Thus they were less concerned about grammar and had stronger thinking-writing connections. In other words, seeing their thoughts in words encouraged them to keep writing and promote their writing skills. Fourthly, post-test data revealed that online writing students still struggled with the greatest difficulties in word choice. Students realized they had trouble with run-on phrases and articles. Few students had difficulties picking the proper terms since they were unfamiliar with the process in their own language. The word choice is also entrenched in culture and customs language, and they had known how to select acceptable terms in writing. It might possibly be explained that they frequently thought in their first language then

transcribed their thoughts into English, causing difficulties in sentence structure and writing faults in run-on sentences.

6. Conclusion

This study's main goal was to explore how students' interactions, communication, knowledge construction, and peer collaboration impacted their writing ability in the context of shifting from teacher-centered instruction to a student-centered model using digital technology and advancement. The technology-assisted devices utilized in this research were Paragraph Punch, ProWritingAids, and an online discussion forum (LMS). To enhance English writing processes and results, technology-based communication offered limitless class time and a learning environment.

The findings of the questionnaire revealed that most participants attributed their greatest writing problems to cognitive, emotional, and social limitations. After a technology-based communication intervention intended to address students' attitudes towards writing problems, socio-cultural, cognitive, and emotional elements of writing were decreased the most. There was an improvement in student writing performance. Students improved in writing volume, organization, subject phrase, concepts, and various viewpoints. However, most students' grammar (run-on sentences and articles) and word choice did not improve. Using technology-based communication in writing classes had some advantages. Students felt they improved in many perspectives, critical thinking, identifying writing errors, spelling, grammar, implementing writing processes, and adapting to native writing conventions.

Participants emphasized the benefits of writing on the brain. On the other side, cognitive drawbacks included contradictory input, revision time, and difficulty. The writing software lacked originality and versatility. It took considerably more effort to establish an e-community for effective assistance and information exchange. Initially, students were hesitant to share their English writing with their peers for fear of being judged or because they did not trust their peers' capacity to provide constructive or relevant comments and recommendations. Gradually, students formed an e-learning environment where they not only helped each other write, but provided emotional support by demonstrating empathy and proposing problem-solving methods as well. Students learned to use writing to communicate ideas, resolve conflicts, support others' emotional needs, and solve issues. Online discussion and engagement improved metacognitive and higher-order cognitive processes.

For further studies, teachers should continuously assess to determine if technology-based communication would assist in meeting students' needs and attain their own pedagogical goals. Moreover, while using those digital communications in the writing process, students would considerably be affected by their mindset and emotion. Hence, their writing habit or style would consequently be influenced. This could appropriately suggest lecturers directing students to be conscious of their target writing tasks and utilizing technology as a means of writing and interacting with others. Last but not least, technology-mediated communication should be

investigated more comprehensive insights for pedagogical purposes, not only in writing classes but in other language ones as well.

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Successive Action Research to Develop the Higher Order Thinking of EFL Learners Through Discussion Forums

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Abstract

Classrooms of English as a foreign language (EFL) in Japan tend to lack learning activities to develop higher order thinking due to the test-oriented practices. The purpose of this successive action research is to explore discussion forums embedded in extracurricular blended learning programs created to develop the higher order thinking of EFL learners at a public high school in Japan, drawing on the construct of mediation from sociocultural theory. In the first program, fifteen participants engaged in online synchronous and asynchronous activities with English as a medium of instruction and communication while being supported by face-to-face sessions conducted in Japanese. Data were collected through three methods: discussion forums to obtain written texts from participants, surveys, and the researchers' observations. Participants' interactions posted in discussion forums are transformed into quantitative data using the Interaction Analysis Model. Then, the quantitative data are triangulated with qualitative data derived from surveys and observations. The findings of the trial program showed that participants found collaborative constructivist learning meaningful and exhibited higher order thinking development to varying degrees. However, learner-learner interaction was not so activated as expected. Based on the researcher's reflection, the second intervention was redesigned and implemented in the cyclical process of successive action research. The last section presents the projected benefits of successive action research and suggestions for EFL educators to make informed decisions about how discussion forums can be effectively used in education.

Keywords: discussion forums, blended learning, English as a foreign language (EFL), dynamic assessment, higher order thinking

1. Introduction

One of the major challenges in the field of teaching English as a foreign language (EFL) at high schools in Japan is that English classrooms tend to lack learning activities to develop higher order thinking. I conducted action research in summer 2020 with a co-researcher to explore an

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extracurricular blended learning (BL) program created as an intervention to develop the higher order thinking of EFL learners at a public high school in Japan. This study was guided by two research questions: (a) to what extent can higher order thinking be improved among EFL learners at a high school in Japan by engaging in online asynchronous forums embedded in the BL program? and (b) what factors of the BL program facilitated or inhibited the presence of higher order thinking? In the BL program, the participants engaged in online synchronous and asynchronous activities with English as a medium of instruction and communication while being supported by face-to-face (F2F) sessions conducted in Japanese. Data were collected through three methods: (a) asynchronous forums to obtain participants' written text, (b) pre- and post-surveys with open-ended questions, and (c) researchers' observations recorded in a research journal. The details of the study will be described in Section 2.

I developed the first action research into my doctoral project. The second intervention, which I designed after reflecting on the findings of the trial program in 2020, was implemented in summer 2021 as part of my doctoral project. I will describe the reflection process in which I redesigned the second action research in Section 3. In the last section, I will present the projected benefits of successive action research and suggestions for EFL educators to make informed decisions about how discussion forums can be effective, making use of both affordances that the in-person face-to-face and online components of the blended learning design provides.

2. The first action research: A trial program in summer 2020

2. 1 Problem and Background

Technologies can be a catalyst for educational transformation to increase the quality of learning experiences (Garrison & Anderson, 2003). While we have to be careful about the non-neutrality that technologies might entail in and of themselves, the rationale underpinning the belief rests on the assumption that technologies provide the inherent potential to facilitate higher levels of learning (Kanuka, 2008). In that sense, technology is only a tool, and what matters is what we can do with the tool. In the wake of the COVID-19 pandemic in 2020, we are still encountering online learning programs that seem to be little more than a direct translation of traditional correspondence courses or traditional F2F classes on lecture formats. In contrast, online learning has developed in the past few decades as a new method of technology-mediated learning to replace the concept of self-study in traditional distance education and knowledge transmission common to F2F institutions with the concept of knowledge construction through interaction in collaborative communities of learners.

The focus on collaborative constructivist approaches in online learning in the past few decades rests on the belief that these approaches can lead learners to higher order thinking. It is said that the educational systems concentrated on providing students with the basic skills for working in an industrial economy in the past and that now the focus has shifted to higher order thinking skills that are needed in the knowledge-based economy (Morrison, 2007). The implication here is that educational institutions have critical responsibilities to provide learning environments conducive to the development of capable and creative minds ready for the challenges of this complex world.

In high school settings (Grade 10 to 12 in the K-12 system) in Japan, EFL classrooms tend to lack learning activities to develop higher order thinking due to test-oriented practices that are based on cognitive-behavioral theory (Nishino & Watanabe, 2008). Despite initiatives led by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) to promote instructional reform, including its decision to include the goal of realizing proactive, interactive, and authentic learning in the new government course guidelines revised in 2018 (MEXT, 2018), the change on the ground in that direction has been slow and sporadic. Related to this problem, in Japan, where technological advancement has been at the forefront of the world, the infrastructure and use of technology in both secondary and post-secondary education is far behind, as has been revealed by the COVID-19 pandemic in 2020 (Aoki, 2010; Kittaka, 2020).

To better understand the reasons why EFL classrooms in Japan tend to lack learning activities to develop higher order thinking, we need to explore the social and political background of the country. In the field of Teaching English to Speakers of Other Languages (TESOL), Japan is categorized not as an English-as-an-additional-language (EAL) setting but as an English-as-a-foreign-language (EFL) setting. EFL settings are those where students living in a non-English-speaking country learn English as a school subject. In other words, most people in Japan do not have to use English in their everyday lives.

English as a school subject is a crucial part of university entrance examinations in Japan. English is included in almost all university entrance examinations, including the largest-scale national test, which is administered by an independent administrative institution called the National Center for University Entrance Examinations (National Center for University Entrance Examinations, 2020). The English portion of university entrance examinations in Japan tends to require students to answer questions as fast as possible only by using decoding skills. In this reality, it might be more accurate to suggest that the focus only be on test-solving skills in classrooms.

Another reason for EFL classrooms dominated by test-oriented practices is related to English education policies driven by neoliberalism, which is generally defined as a revisionist approach to transform the welfare state into a post-welfare state that relegates every aspect of society to the wisdom of the market. Neoliberalism has permeated into the area of education, especially English education, in the past few decades. Some researchers call English education driven by neoliberalism *linguistic instrumentalism* (Barrett & Miyashita, 2015; Guo, 2012; Kubota, 2011; Wee, 2010). Linguistic instrumentalism can be defined as an ideology that emphasizes the utilitarianism of learning English for sustaining economic development as a society and for mobility obtained by an individual. Linguistic instrumentalism tends to promote competition rather than cooperation. The discourse of *developing human resources,* which is often observed in English education policies in Japan, emphasizes fierce competition on the global stage and implies that students should serve the nation as a resource. This discourse tends to encourage students to study English harder to enter prestigious universities.

A closer examination of the reasons might be necessary and profitable, but such an examination is out of the scope of this study. This action research was intended to mitigate problems observed on the ground practically.

2. 2 Purpose of the Study

The purpose of this study was to investigate a BL program created as an intervention to improve higher order thinking of EFL learners at a public high school in Japan. By adopting an action research approach with a pragmatic paradigm, the intervention was designed to mitigate problems observed in the classroom while drawing on the concept of praxis, a dialectical unity of theory and practice with reflective thought (Lantolf & Poehner, 2011).

2. 3 Background Literature

This literature review is an analysis of the empirical and theoretical research that bears directly on the purposes of this study.

2. 3. 1 Higher Order Thinking

Despite the popularity and importance of the concept of *higher order thinking* in education, there is no clear definition of the term. A framework that is often mentioned when higher order thinking is defined or considered is Bloom's taxonomy (1956). Forty-five years after Bloom's taxonomy was published, Anderson et al. (2001) introduced the revision of the original framework. There were two explicit changes in the revision. First, the new knowledge dimension contains four subcategories instead of three in the original scheme. The one added to the new framework is *Metacognitive Knowledge*, which was not widely recognized at the time the original version was developed. The other explicit change is in the overall structure of the cognitive process dimension. The six major categories in the new scheme are: (1) Remember, (2) Understand, (3) Apply, (4) Analyze, (5), Evaluate, and (6) Create.

The Russian psychologist L. S. Vygotsky introduced the concept of lower mental functions (LMFs) and higher mental functions (HMFs) to reconcile his claim that human mental functions are social in origin with the other contradicting fact that newborn infants already possess certain mental functions (Vygotsky & Rieber, 1997). Vygotsky viewed the development of human mental functions as their transition from the original LMFs into HMFs. LMFs are genetically inherited in terms of origins, unmediated in terms of structure, involuntary in terms of the way of functioning, and isolated in terms of the relation to other mental functioning. HMFs are socially acquired, mediated, voluntarily controlled, and linked to a broader system of other functions.

In this study, higher order thinking is defined using Anderson et al.'s (2001) revised taxonomy of educational objectives and Vygotsky's concept of LMFs and HMFs (Vygotsky & Rieber, 1997); Higher order thinking represents the cognitive mental functions of understanding, applying, analyzing, evaluating, and creating knowledge that is voluntarily controlled and facilitated through interaction. Recently, developing students' higher order thinking has been a widely shared goal in both secondary and post-secondary education. In the next section, I explore how higher order thinking can be developed in formal education.

2. 3. 2 Online Asynchronous Forums

One way of developing higher order thinking that has been adopted in many institutions is online learning, or to be more specific, asynchronous forums. The term *asynchronous forums,* which is sometimes referred to as computer-mediated conferencing or discussion boards, is defined in this

study as a learning activity where participants interact with written language asynchronously.

The focus on collaborative constructivist approaches in online learning in the past few decades rests on the belief that these educational approaches can lead learners to higher order thinking (Morrison, 2007**).** Different scholars have introduced different perspectives on constructivism. Two major strands are cognitive constructivism and social constructivism (Powell & Kalina, 2009). Others include radical constructivism (Glasersfeld, 1995), holistic constructivism (Scheer et al., 2012), and ecological constructivism (Hoven & Palalas, 2016). In asynchronous forums, which is one major form of collaborative constructivist approach, the act of *writing* leads students to deeper thinking (Conrad and Openo, 2018; Garrison, 2016). *Reflection* is another practice that can be incorporated in asynchronous forums to develop higher order thinking (Conrad & Openo, 2018; Garrison, 2016; Hoven, 2019; Rose, 2013). Time available in engaging in asynchronous forums enables participants to reflect, while in F2F or synchronous communication, participants are usually forced to respond immediately with no time available for deeper thinking.

A theoretical basis is needed for teachers' effective facilitation in constructivist-based asynchronous forums to develop students' higher order thinking. In the next section, I will examine how sociocultural theory and dynamic assessment, an assessment and teaching approach derived from sociocultural theory, can be applied to asynchronous forums for more effective facilitation.

2. 3. 3 Dynamic Assessment as a Pedagogical Approach

In this study, sociocultural theory (SCT) refers to a Vygotsky-inspired theory. The central tenet of the theory is that human thinking is symbolically mediated (Lantolf, 2013). Sociocultural in this context means that language, by which thinking is mediated, is a social, cultural, and historical artifact. A method that is emerging in SCT, especially in SCT-based second-language research, is dynamic assessment (DA). DA, where mediation is given intentionally, is a procedure that unites the goals of better understanding a learner's potential through structured sets of interactions and fostering development through those interactions (Lantolf, 2011).

As the name shows, DA is an approach to assessment, but it is also an approach to teaching. In DA, teachers are expected to provide learners with ongoing intervention attuned to learner development based on Vygotsky's concept of the zone of proximal development (ZPD). Rather than waiting for individuals to become developmentally ready to learn, in DA, instructions are given intentionally to prepare learners for more complex concepts (Lantolf, 2013). DA links ongoing assessment to the provision of instructions that are appropriate mediation for development. Lantolf (2011) noted that research on DA within group-wide ZPDs is an important area for future research. As a group develops, the individuals comprising the group also develop, which is an important notion with regard to ZPDs in education (Lantolf & Poehner, 2011).

DA or any other form of formative assessment tends to be intuitive on the part of teachers rather than guided by principles of learning theories (Lantolf & Poehner, 2004). In the next section, I review the literature on content analysis, which is expected to measure the effects produced by asynchronous forums with DA-based mediation.

2. 3. 4 The Interaction Analysis Model: An Instrument for Content Analysis

Content analysis has been established as an effective method for analyzing asynchronous communication and is widely used in the field of online and blended learning (De Wever et al., 2006; Hall, 2014; Lucas et al., 2013). In general, the goal of content analysis is to reveal information that is not observed at the surface level of the transcripts. Among many content analysis instruments, the Interaction Analysis Model (IAM), which was developed by Gunawardena et al. (1997), was chosen for this study. The IAM is an established instrument (Lucas et al., 2013; Hall, 2014), and it is an instrument that fits the purposes of this action research. Jonassen et al. (1994) stated that constructivist learning outcomes should be evaluated using evaluation methods that are sensitive to the goals of constructivist learning. Gunawardena et al. (1997) noted that knowledge construction necessitates higher order thinking and that the IAM begins with what could be described as lower mental functions to higher mental functions in Vygotsky's terms.

Research that used the IAM to examine the knowledge construction in asynchronous forums revealed several challenges that this learning activity often entails. Wang et al. (2009) reported that many students did not know how to behave in the environment, which suggests that participants need a phase where they practice the unfamiliar way of learning before entering the program. Hou et al. (2009) reported that knowledge construction was inhibited due to participants' lack of skills to use the technology adopted in the program and that interaction among participants was not activated when they had no obligation to participate. Some of these challenges might be addressed by adopting a blended learning (BL) approach. BL environments can offer different affordances that allow for meaningful learning experiences to take place (Graham, 2006). In the next section, I will explore blended learning systems.

2. 3. 5 Blended Learning Systems

BL is expected to emerge as a predominant system and become more common in secondary and post-secondary education than either fully online or fully F2F instruction in brick and mortal institutions (Graham, 2019; Halverson et al., 2017; Watson, 2008). Despite the increasing popularity, theories that are specific to BL have not yet developed (Graham, 2019; Halverson, 2017). While the definition of BL is not fixed, I define BL in this study as the integration of classroom F2F learning experiences and online learning experiences within a thoughtful course design.

In the wake of the COVID-19 pandemic in 2020, BL practice and research not only in higher education but also secondary education have been increasing (Ndoricimpa & Barad, 2021; Thi Thanh Tran, 2021), but BL research in K-12 settings focusing on constructivist learning is still scarce especially in Japan. Learners in secondary education often need direct instruction and careful scaffolding. Considering increasing BL practice and the difficulty of implementing learner-centered activities in secondary education, more BL research focusing on secondary education is expected. BL design might be a possible solution to make constructivist online learning more effective in K-12 settings.

2. 4 Methodological Approach

This research used an action research approach. Action research can take many forms, but typically it is "a small-scale intervention in the functioning of the 'real' world and a systematic, close examination, monitoring and review of the effects of such an intervention, combining action and reflection to improve practice" (Cohen et al., 2018, p. 441). While different scholars have introduced different sets of principles, the consensus is that action research is a cyclical process (Bargal, 2006; Kemmis & McTaggart, 2014). In each cyclical procedure, the link between action and reflection on action is readily apparent. At the same time, throughout the procedure, theories are as an essential tool to provide teachers and researchers with the understanding necessary to take effective action.

2. 4. 1 Overview of the Intervention

The BL program created as an intervention for this action research is an extracurricular program, which means that the program is not part of regular classes that require official grading needed for participants' graduation but is rather a supplemental course in which students participated voluntarily. In the BL program, fifteen EFL students engaged in online synchronous and asynchronous activities with English as a medium of instruction and communication while being supported by face-to-face sessions conducted in Japanese (see Figure 1). The online component of the program consists of two five-day asynchronous forums and two ninety-minute synchronous meetings. Concerning the F2F component, two ninety-minute meetings are placed: at the beginning and at the end of the program. This study focused on online asynchronous forums, where instructors draw on the construct of mediation from SCT, or especially from DA, to lead the participants to higher order thinking by engaging them in student-teacher and student-student interaction in the content-based EFL learning program.

Figure 1.

The Structure of the Trial Program

Phase 1: Face-to-Face Meeting I (1.5 hours)
The aims of the program and how to operate technology in use were explained in Japanese, emphasizing how and why student-student interaction can be a meaningful educational experience. Also, participants were asked to submit a pre-survey by the following day.
Phase 2: Asynchronous Forum I (5 days)
This is one of the two main asynchronous forums in this program. Participants read materials and discussed a given theme, which was chosen to build a foundation for the next asynchronous forum.
Phase 3: Synchronous Meeting I (1.5 hours)
Two synchronous meetings are prepared to integrate the four skills for English proficiency (i.e., reading, writing, listening, and speaking). The main goal of Synchronous Meeting I is to

break the ice with no cognitively demanding topics.
Phase 4: Asynchronous Forum II (5 days)
In Asynchronous Forum II, participants read materials, watched two short video clips, and discussed more complicated issues on a given theme based on their foundation in the previous forum.
Phase 5: Synchronous Meeting II (1.5 hours)
In Synchronous Meeting II, participants were required to give a three-minute individual presentation on a given topic. The topic was related to what they discussed in the previous two asynchronous forums.
Phase 6: Face-to-face Meeting II (1.5 hours)
Participants shared what they learned in the whole process of the program. Also, participants were asked to submit a post-survey within five days.

2. 4. 2 Goals of Online and F2F Components

Both synchronous and asynchronous activities in the online component were designed to be places where students engage in constructivist learning. Two meetings in the F2F component were opportunities to provide students with direct instructions about the procedure, contents, and technologies in use. K-12 students tend to need direct instruction due to a lack of independent learning abilities. That is why a BL design was adopted in this study so that the instructor can provide participants with the needed direct instruction in the F2F component to guide them in the online component.

2. 4. 3 Roles of Researchers

I am a full-time EFL teacher working at a public high school in Tokyo. I invited one external researcher, an adjunct professor working at two universities in the United States of America. Both of us took on the roles of researcher, program designer, and instructor in the BL program. I focused on higher order thinking while the external researcher focused on language development in his study.

2. 4. 4 Description of the Teaching Context

The site of this study, S High School, is one of 186 public senior high schools in Tokyo. S High School is designated by the Tokyo Metropolitan Board of Education as an “Advanced School,” which is expected to show high achievement in university entrance examinations. S High School has about 960 students, with approximately 320 students in each grade.

2. 4. 5 Participants

Student participation in the BL program was totally voluntary. The program was advertised to all the students at the school. Students who were interested in the program applied to the program. The number of participants was limited to a maximum of fifteen to ensure the quality of the program. Eleven students first applied, and later four more students were recruited. They were all advanced EFL learners who had already acquired the basics of English grammar and vocabulary. In that sense, this BL program was a value-added option for higher achieving students.

2. 4. 6 Instructional Design

This program took inquiry-based instruction as the main instructional method. According to Laurillard (2012), the inquiry "is a term that expresses the value to the learner of being in control of their own knowledge and skills development, in contrast with the teacher-led form of learning through acquisition" (p. 140). Seen from the perspective of TESOL, the teaching method used in this program is categorized as content-based instruction and cooperative language learning (Richards and Rodgers, 2001). Instructors refrained from giving immediate grammatical feedback due to our focus on facilitating students' thinking.

2. 4. 7 Course Topic

In the individual presentation required in Synchronous Meeting II, participants tried to answer this question: How can learning English be meaningful to me and to the world? Two asynchronous forums were designed for participants to deepen their thought to answer this question. Many Japanese students are made to believe that English is necessary for their future success under the social and political climate; thus, the topic was chosen to lead the participants to think about why they learn English from broader perspectives in a metacognitive way.

2. 5 Data Collection and Analysis

In this study, qualitative data were gathered through three methods: (1) asynchronous forums to obtain textual data, (2) researchers' observation during the whole process of the program recorded in a research journal, and (3) pre- and post-surveys to obtain qualitative data through the open-ended questions. Participants' transcripts stored in asynchronous forums were converted into quantitative data through the IAM. Then, the quantitative data were triangulated with qualitative data derived from the researcher's observation and surveys.

2. 6 Findings and Discussions

2. 6. 1 Findings from the IAM

I used the IAM to explore the first research question: to what extent can higher order thinking be improved among EFL learners at a high school in Japan by engaging in online asynchronous forums embedded in the BL program? I scrupulously read the transcript, divided the transcript into messages, and assigned each message to one or multiple phases according to the phases described in the IAM (see Figure 2).

Figure 2.

Interaction Analysis Model for Examining Social Construction of Knowledge in Computer Conferencing

Phase I: Sharing/comparing of information

A. Statement of observation or opinion
B. Statement of agreement from one or more other participants
C. Corroborating examples provided by one or more participants
D. Asking and answering questions to clarify details of statements
E. Definition, description, or identification of a problem

Phase II: The discovery and exploration of dissonance or inconsistency among ideas, concepts, or statements

A. Identifying and stating areas of disagreement
B. Asking and answering questions to clarify the source and extent of disagreement
C. Restating the participant's position and possibly advancing arguments or considerations in its support by references to the participant's experience, literature, formal data collected, or proposal of relevant metaphor or analogy to illustrate the point of view

Phase III: Negotiation of meaning/co-construction of knowledge

A. Negotiation or clarification of the meaning of terms
B. Negotiation of the relative weight to be assigned to types of arguments
C. Identification of areas of agreement or overlap among conflicting concepts
D. Proposal and negotiation of new statements embodying compromise, co-construction
E. Proposal of integrating or accommodating metaphors or analogies

Phase IV: Testing and modification of proposed synthesis or co-construction

A. Testing the proposed synthesis against 'received fact' as shared by the participants and/or their culture
B. Testing against the existing cognitive schema
C. Testing against personal experience
D. Testing against formal data collected
E. Testing against contradictory testimony in the literature

Phase V: Agreement statements(s)/application of newly-constructed meaning

A. Summarization of agreement(s)

B. Applications of new knowledge

C. Metacognitive statements by the participants illustrating their understanding that their knowledge or ways of thinking (cognitive schema) have changed as a result of the conference interaction

Table 1 provides the number of posts, messages, and total words that each student submitted. The total number of posts was 45 in Forum I and 43 in Forum II. Comparing Asynchronous Forum I and II, while the number of posts is close, the number of messages in Forum I is larger than in Forum II. The reason is that in Forum I, participants were asked to answer three questions listed in the Prompt I that the I created; thus, most of the students' first responses were divided into three messages.

Table 1.

The Number of Posts, Messages, and Total Words in Asynchronous Forums

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	Totals
Forum I														
Posts	3	3	2	1	4	1	1	1	1	1	1	1	0	45
Messages	6	5	3	3	7	1	2	3	3	4	3	3	0	43
Total Words	341	328	228	200	442	96	110	168	90	222	143	94	0	2462
Forum II														
Posts	3	2	1	1	2	1	1	2	1	1	1	0	1	43
Messages	3	2	3	2	4	1	1	2	1	2	2	0	1	24
Total Words	262	212	192	105	340	74	54	187	109	220	145	0	77	1977

Table 2 provides the total numbers of messages coded at each phase in the IAM. According to Gunawardena et al. (1997), Phase I and II are considered to represent the lower mental functions while Phase III to V represent the higher mental functions. Comparing Forum I and II, the ratio of Phase III in Forum II is larger than in Forum I, and this is because the question in Prompt II that the I created was the one that encouraged participants to think about both advantages and disadvantages of English as a global language. In the pre-survey, no student identified negative aspects of English as a global language; thus, many of the students had to interact with the reading material and video clips provided by the instructors before presenting their statements,

many of which were products derived from negotiation with these materials. Findings from the IAM provide evidence to suggest that the participants were capable of the co-construction of knowledge, although to a limited extent.

Table 2.

IAM Coding Results for Asynchronous Forums

IAM Phase	Phase I	Phase II	Phase III	Phase IV	Phase V	Totals
Forum I	91 (85.0%)	5 (4.7%)	11 (10.3%)	0 (0%)	0 (0%)	107 (100%)
Forum II	22 (56.4%)	0 (0%)	16 (41.0%)	0 (0%))	1 (2.6%)	39 (100%)

2. 6. 2 Closer Examination of Knowledge Co-Construction in Asynchronous Forum I

Although almost all the participants replied to questions described in the prompts and instructors' postings in both forums, learner-learner interactions were scarce. The number of posts that were directed to other participants was 1 in Forum I and 4 in Forum II. Table 3 provides a string that drew learner-learner interaction at the end (Turn 6) in Forum I, which also illustrates the instructors' DA-based mediation.

Table 3.

An Example of Knowledge Co-Construction in Asynchronous Forum I

Turn		Post
1	S2	… Certainly, English is necessary to make connections with people and countries. But, we must not forget "respect of native languages," which is one of the great features of each country. People also should use native language positively … [Phase III/D]
2	T1	[To S2] You have brought up a very important topic: our mother tongue. Our mother tongue is important in many way … First, our mother tongue is important to develop our thinking system … Second, language is a culture as you wrote. This is a popular example, but other languages do not have a word for *mottainai* in Japanese. Japanese have the word *mottainai*, so Japanese people have the feeling.
3	S2	… But I now find it is only "feeling" and also that I have the feeling when I speak Japanese. "Feeling" is so vague thing, and words are so clear thing. However, I think they have deep relations. What do you think about this, everybody? [Phase III/D]
4	T2	[To S2] Yes language allows us to experience 'deep' feelings, and it is part of our personal 'existential' experience. On the one hand, my language, the words I

		speak are mine from my soul, and on the other hand, my words are the words I learned from others because they shared their language with me and language was given to me … Bakhtin suggested, language is half mine and half yours and when we communicate we meet in the middle.
5	S2	… Needless to say, culture and language vary from country to country. I think it is better than not. If countries all over the world had the same culture and language, we would not have Interests each other. Not knowing each other, we will mutually try to know. So, these differences are what we should focus on every time … [Phase III/D]
6	S5	[To S2] I agree with you. They will have deep relation. I think that it's our experience, *nare* in Japanese. At first, our feeling for a language is almost nothing because we don't have any experiences. However, If we get many experiences by talking with foreigners or writing sentences, we will be able to get the feeling and English skills, too. Certainly, the feeling is vague. However, our experience can improve it … [Phase I/B and III/D]

Turn 1 is part of S2's first post in this forum. S2 negotiated with the reading material in Prompt I and presented an idea of "respect of [*sic*] native languages" while thinking about why people learn English. Turn 2 is Instructor 1's response to Turn 1. Complimenting S2's statement, Instructor 1 provided two specific reasons why our mother tongue is important. Throughout the forums, the instructors refrained from pushing participants to reply to instructors; thus, Instructor 1 ended the post without adding further questions. Turn 3 is S2's reply to Turn 2. S2 presented his thought about relationships or differences between feelings and words. S2 is thought to have further considered why our mother tongue is important after reading Turn 2. Turn 4 is Instructor 2's response to Turn 3. Instructor 2 extended the discussion about relationships or differences between feelings and words by providing a philosophical discourse, which was intended to further stretch S2's thought. Turn 5 is S2's reply to Turn 4. This message is close to Phase V of the IAM in that S2 pondered not only about himself but about relationships among different cultures from a broader perspective. In the end, however, the I coded this message as Phase III/D because the metacognitive aspect is not so explicit in this message. Nevertheless, it is evident throughout this string that S2's cognitive functions developed from Turn 1 to Turn 3 and 5. Turn 6 is the sole post in this forum that is categorized as learner-learner interaction. S5 replied to Turn 3, S2's post. After showing her agreement to S2's statement, S5 presented a related concept, experience, through which she thinks feelings can be connected to words.

2. 6. 3 Challenges Identified in the Analysis of the Trial Program

I triangulated data derived from the IAM with observational data and qualitative data obtained from pre- and post-surveys to answer the second research question: what factors of the BL program facilitated or inhibited the presence of higher order thinking? While almost every participant found collaborative constructivist learning to be meaningful, the most explicit challenge was the lack of learner-learner interaction, which resulted in the lack of messages coded as Phase III to V in the IAM, representing higher mental functions (Gunawardena et al.,

1997). Interaction is divided into three categories: learner-content, learner-instructor, and learner-learner, each of which should be facilitated for effective knowledge co-construction (Anderson, 2003; Moore, 1989).

I identified four reasons why learner-learner interaction was not activated. First, to students who are usually given direct face-to-face instruction, online instruction might have been unclear. Although instructors provided guidance for participants' online participation, it might not have been enough. Secondly, the participants needed more time to get accustomed to the new learning environment. Several students wrote in the post-survey that they hesitated to express their own opinions and reply to other participants. Thirdly, some participants had difficulty using the online platform adopted for the asynchronous forums. Most of them found no technical problems, but the instructors should have provided more guidance, especially to those who were not familiar with the technology. Finally, English proficiency was a factor to inhibit interaction for some participants. Although all the participants were thought to be advanced EFL students, some of them wrote in the post-survey that they needed more time to decode messages from other students and the instructors and to write their own posts in English.

3. The second action research: A doctoral project in summer 2021

Based on the outcomes from the trial program described in the previous section, I designed a new BL program by making modifications to the trial program. I implemented it at the same high school in summer 2021. This BL program was conducted as an intervention in my doctoral project. The purpose and the methodological approach are the same as the ones established in the trial program. In this section, I will describe the modifications, introduce revised research questions, and briefly discuss the ethical requirements.

3. 1 Modifications

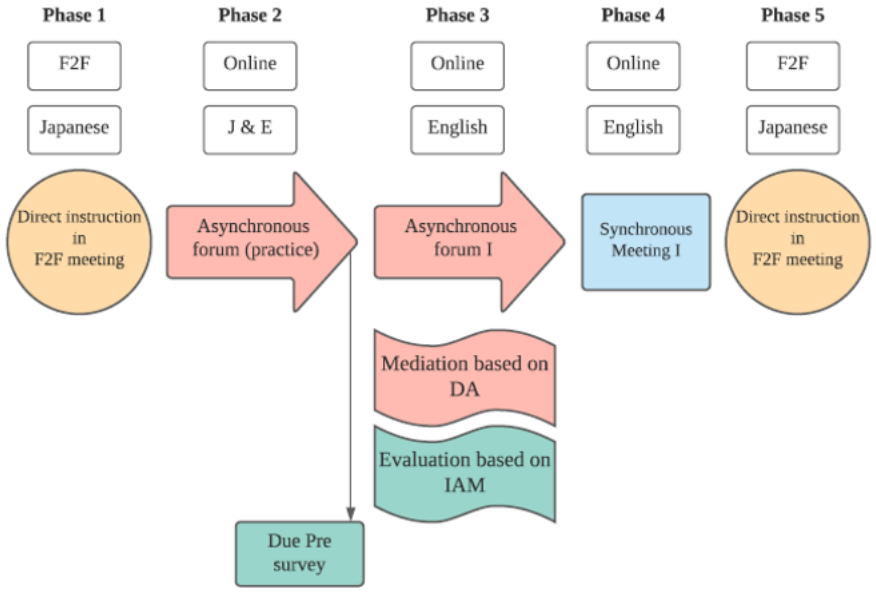
After analyzing the data taken from the trial program, I concluded that the participants found collaborative constructivist learning meaningful and exhibited higher order thinking development to varying degrees. However, learner-learner interaction in asynchronous forums was not so activated as I expected, which might have contributed to the limited development of higher order thinking identified in the analysis of participant interactions. I identified two possible ways to overcome this challenge. To increase learner-learner interaction in asynchronous forums, I first decided to make use of affordances that the in-person F2F component of the BL programs provides. In the case of the intervention, the participants were high school students who were not familiar with computer-mediated collaborative constructivist learning. Also, most of them still lacked the ability to manage their learning independently. Therefore, I gave them more careful direct instruction, answering their questions so that the students could understand the purposes and procedures of collaborative constructivist learning more clearly. Secondly, to increase learner-learner interaction in asynchronous forums, I provided participants with more opportunities to practice this new way of learning with easier tasks in order for them to get accustomed to the new way of learning and technology employed in the proposed program.

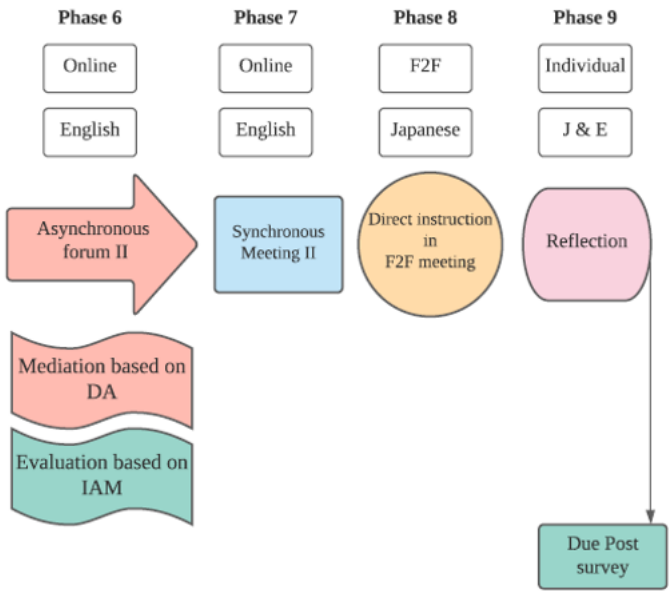
Although there are certainly various ways to increase the presence of higher order thinking in asynchronous forums, and the need to carefully and purposefully design materials to fit the program may seem obvious, the data underscored the importance of carefully designing materials and tasks in the program. Also, many participants illustrated metacognitive aspects in their responses to two questions listed in the post-survey: what did you learn in this BL program?; and how was the virtual classroom experience? Thus, I added an explicit reflection phase at the end of the proposed program, where participants were encouraged to reflect more deeply on what they learned, guided by the questions in a post-survey, and share their reflections within the cohort.

Based on my reflection on the trial program, I added three phases to the trial program: (1) one asynchronous forum for practice before the main program, (2) one in-person F2F meeting in the middle, and (3) a phase for the final reflection at the end of the program. The intervention consists of nine phases instead of six in the trial program. Figure 3 illustrates the flow of the intervention.

Figure 3.

The flow of the Blended Learning Program





3. 2 Subsequent Actions

Action research is a cyclical process, and therefore modification is always necessary. I will describe the procedure for these modifications in the following three stages.

3. 2. 1 After the Trial Program in 2020

As described above, I added three phases to the trial program. Also, I re-designed the learning materials and learning tasks in the intervention to fit the aims of the intervention, carefully considering the skills and abilities of the expected participants.

3. 2. 2 During the Implementation of the Proposed Intervention Scheduled in 2021

This study drew on the construct of mediation from sociocultural theory (SCT), especially dynamic assessment (DA), a method for better mediation that is emerging in SCT. In DA, teachers are expected to provide learners with ongoing intervention attuned to learner development based on ZPD (Lantolf & Poehner, 2004). In that sense, I made constant modifications in my mediation throughout the program. Also, after each phase in the proposed intervention, I reflected on the process and students' achievements at each stage to make modifications diligently for the next phase.

3. 2. 3 After the Implementation of the Doctoral Project in Summer 2021

I have plans to implement a similar BL program again in summer 2022. The findings of the proposed study and my reflection on the intervention will be utilized in both the design and the implementation phase of the next BL program. In addition, the findings of the successive action research may be used to improve not only extracurricular programs but also regular classes by partly applying constructivist and/or blended learning perspectives into regular classes that are currently dominated by test-oriented practices based on cognitive-behavioral theory. Figure 4 illustrates the development of the cyclical process in this action research study in a longer term.

Figure 4.

The Development of This Action Research in a Longer Term

1. A problem in the classroom
In Japan, EFL classrooms tend to lack learning activities to develop higher order thinking due to test-oriented practices based on cognitive-behavioral theory.
2. The trial program in summer 2020
A BL program that consists of six phases, including two asynchronous forums and two in-person F2F meetings.
3. Findings of the trial program
The participants exhibited higher order thinking development to some extent, but learner-learner interaction was not so activated as I expected.
4. Modifications to the trial program
One asynchronous forum for practice, one in-person F2F meeting in the middle, and a phase for reflection at the end of the program were added.
5. The doctral project in summer 2021
A BL program that consists of nine phases, including three asynchronous forums, three F2F meetings, and a phase for reflection at the end of the program.
6. Modifications to the doctoral project
Modifications will be added for the third BL program in summer 2022. In addition, the findings of the proposed intervention may be used to improve regular EFL classes by partly applying the findings of this doctoral study.

3. 3 Main Research Questions

I established three main questions below to guide this doctoral project.

a) To what extent can higher order thinking be improved among participants in asynchronous online forums?

b) What factors in students' engagement in asynchronous online forums may contribute to the development of higher order thinking, if any?

c) What factors in blended learning design may contribute to the development of higher order

thinking, if any?

I used the same data collection and analysis procedures as the ones adopted in the trial program. In brief, I used the record of participants' interactions posted in the two asynchronous forums as data to examine the first main research question. I will triangulate the results with data derived from pre- and post-surveys and my observation recorded in a research journal to examine the second and third questions.

3. 4 Ethical Requirements

Ethical considerations are critical in research (Cohen et al., 2018). In preparation for this doctoral project, I completed the required TCPS2 CORE tutorial to develop my understanding of the ethical treatment of human participants. Before this action research study was carried out, my proposal was approved by the Research Ethics Board at Athabasca University.

Participation was totally voluntary. The principal of S High School, the site of this study, gave me permission in a written form. The age of the participants ranged from sixteen to seventeen years; thus, I created an informed consent form for both the participants and their parents/caregivers. I took enough time for them to understand the aims, risks, and benefits of the program before they signed the form.

4. Conclusion and recommendations

4. 1 Cyclical Process of Action Research as Socially Engaged Applied Research

These successive interventions in summer 2020 and 2021 are motivated by a desire to improve practice through a cyclical action research process. As I described in Section 1, the problem that I identified is that EFL classrooms tend to lack learning activities to develop higher order thinking due to test-oriented practices that are based on cognitive-behavioral theory in high school settings in Japan. Adopting an action research approach with a pragmatic paradigm, I designed interventions to mitigate problems observed on the ground, drawing on the concept of praxis, a dialectical and ecological unity of theory and practice that is realized through reflective thought (Sanchez Vasquez, 1977).

According to Kemmis (1997), there are two camps in the field of action research: the reflective practitioners and the critical theorists. These two camps are two ends of a continuum with no clear distinction, but for the former, action research is an improvement in professional practice at the local level, and for the latter, action research is part of a broader agenda of changing education and changing society. In this study, I took elements from both sides. As a reflective practitioner, I designed the BL program as an alternative or a supplemental way of teaching to the current test-oriented practices. As a critical theorist, I designed a BL program that can be inspirational to our colleagues and try to disseminate the findings to encourage instructional diversification in society.

4. 2 Delimitations and Limitations

The focus of this successive action research was to describe qualitative and quantitative dimensions of the presence or absence of higher order thinking development only in asynchronous forums embedded in the BL program and analyzed what factors were responsible for the development. This study was not designed to examine whether or how participants' EFL proficiency was improved.

Four main limitations are identified. First, this study used an action research approach in a particular context with a limited number of participants; thus, the conclusions derived are not generalizable. However, efforts were made to make the conclusions transferable by providing a thick description of the research site, course design, and procedures. Secondly, while the content analysis instrument that was adopted in this study is widely recognized, what can be captured by any instrument is only a part of the participants' actual thoughts. I used observational data and data taken from surveys in addition to the transcript analysis to describe a more nuanced picture of the participants' higher order thinking development. Thirdly, while the focus of this study is on the development of higher order thinking, the language used in the online components of the intervention was English, which is the target language for the participants. Participants' development of higher order thinking might have been restricted by the language in use. Finally, the BL program was designed and implemented targeting advanced EFL students who already acquired the basics of English grammar and vocabulary; thus, for students struggling with learning EFL, another type of intervention will have to be considered.

4. 3 Future Directions

In this paper, I described how a trial program in 2020 was developed into a doctoral project in 2021. Findings from the trial program showed that collaborative constructivist learning using discussion forums could be effective for EFL learners in high school settings to develop higher order thinking. Also, the results suggest that blended learning design can help learners attending online discussion forums by providing needed direct instruction in the face-to-face component when participants are not accustomed to online constructivist learning and are lacking the ability to manage their learning independently. The most explicit challenge identified in the trial program was the lack of learner-learner interaction. To overcome the challenge, the second intervention, a doctoral project in summer 2021, was redesigned and implemented. The findings from the second intervention will be used to further refine the cyclical process of this successive action research.

Broadly, this study was intended to enable educators to make informed decisions about how technologies can be effectively used in education. To be more specific, the findings of this study might inform EFL instructors, course designers, and policymakers in Japan and possibly in other countries about an alternative or supplementary way of teaching EFL. Furthermore, the knowledge and insights gained in this study may help uncover an effective model of BL.

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Biodata

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An exploratory study on the use of interactive video via Netflix to improve second language aural vocabulary learning

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Abstract

While video streaming services have had a profound impact on how people view television programs and movies, very little is known about their use to promote second language (L2) development. To address this gap in L2 research, this paper details the results of an exploratory study that examined the combination of interactive video, a new form of entertainment that prompts viewers to make choices that affect the story, and Netflix to see if these tools could enhance different aspects of L2 aural development. Fourteen Japanese university EFL students participated in the study, which utilized a counterbalanced, pretest-posttest research design. The participants viewed two interactive episodes of a TV series via Netflix, each under one of the following conditions: non-interactive and interactive. Pre- and post-tests were administered to measure any gains that were made in aural vocabulary at two different levels (form recognition and meaning recall). Findings from the experiment indicated that interactive video did not significantly impact the incidental learning of aural vocabulary in terms of form recognition or meaning recall. While these results cast doubt on the possible benefits of interactive video, more studies are needed to investigate the potential of the technology for L2 learning.

Keywords: video streaming, vocabulary learning, EFL, L2 video

1. Introduction

As Van, Dang, Pham, Vo, and Pham (2021) note, the use of technology to learn a foreign language comes with many distinct advantages, including increased opportunities for self-directed language learning inside and outside of the classroom (Nguyen, 2021). One technology that has been a common feature of language classrooms for the past several decades is the video (Vanderplank, 2016). Montero Perez, Peters, and Desmet (2018) point out that the accessibility of video, particularly internet television (YouTube, Netflix, Amazon Prime, Hulu), has the capacity to facilitate greater exposure to the target language outside of the classroom. Captioned and subtitled videos (hereafter, the term "captioned video" is used throughout to minimize repeated and/or potentially confusing use of the two terms), which present written text synchronously with video and audio to support comprehension, have also made it possible for

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even beginner learners to make use of video to study a foreign language. While the use of video by L2 learners may present some downsides, for instance, the fact that students may associate them with leisure viewing rather than language learning (Vanderplank, 2010), as well as the possibility of learners using them as a crutch to aid comprehension (Winke, Gass, & Sydorenko, 2010), the benefits of textual aids when watching video are clear, specifically in terms of listening and vocabulary development. A meta-analysis by Montero Perez, Van den Noortgate and Desmet (2013) found that those who used L2 subtitles performed significantly better on listening and vocabulary tests than language learners who had no access to on-screen text.

Although extensive literature exists on the use of captioned video with L2 learners (see Vanderplank, 2016; Yeldham, 2018), there are still some areas that have received little to no attention. One such area is the use of video streaming services for foreign language learning. Because of their ubiquity in today's society, it is critical to examine the use of video streaming services to promote L2 development. However, to the best of the authors' knowledge, only two studies have looked at their use with students in the context of L2 learning (Dizon, 2018; Wang & Chen, 2019). Another technology that has not been studied in L2 research is the use of interactive video. Interactive video is a relatively new form of entertainment delivered via the Internet, which allows users to make choices that affect the outcome of the story, with companies such as Netflix, Amazon, YouTube, and the BBC currently in the process of developing interactive titles (Perez, 2019). Lastly, although incidental vocabulary learning is a well-studied topic in L2 video research, less attention has been paid to aural vocabulary learning with L2 video. Due to these gaps in the literature, an exploratory study was conducted to examine the use of interactive video through Netflix on the incidental learning of L2 English aural vocabulary.

2. Theoretical framework

This study is informed by the theory of multimedia learning by Mayer (1997, 2001). According to the theory, learners process information most effectively using visual and written aids. When faced with pictorial (visual) and written (verbal) information, students must select relevant input and organize this information into visual and verbal mental representations of said input. Learners can then build connections between the different forms of input, thereby allowing them to integrate this information into working memory (see Figure 1). Accordingly, a more fertile learning environment is created, thus leading to vocabulary, reading, and listening development. Mayer's (1997, 2001) theory of multimedia learning has been used extensively in the field of L2 learning, especially in terms of examining the role that annotations have on language learners. Jones (2009) found that beginner and advanced L2 learners benefited most from written and pictorial annotations, thereby supporting listening comprehension and vocabulary learning. In another study on vocabulary acquisition and listening comprehension, Jones and Plass (2002) discovered that students with access to both pictures and written captions better remembered word translations and recalled the listening passage more effectively than those who only used one form of annotation or who did not have access to aids. While no

significant difference was found in relation to reading comprehension, the results from Akbulut's (2007) study indicated that access to word definitions and visuals led to greater gains in vocabulary compared to when students were only given access to definitions. These findings illustrate the importance of visual and written information for L2 vocabulary and listening and highlight the positive impact that multimedia environments can have on foreign language learners. As Rodgers (2018) notes, combining input modes such as video and audio may enhance different features of the L2 learning process, including listening comprehension and vocabulary development. Considering captioned video incorporates multiple modes–visual in the form of the video, aural in the form of the L2 spoken language, and verbal in the form of the written captions–video streaming services may be a useful tool for language learning as they offer learners audio and video captioning options in multiple languages.

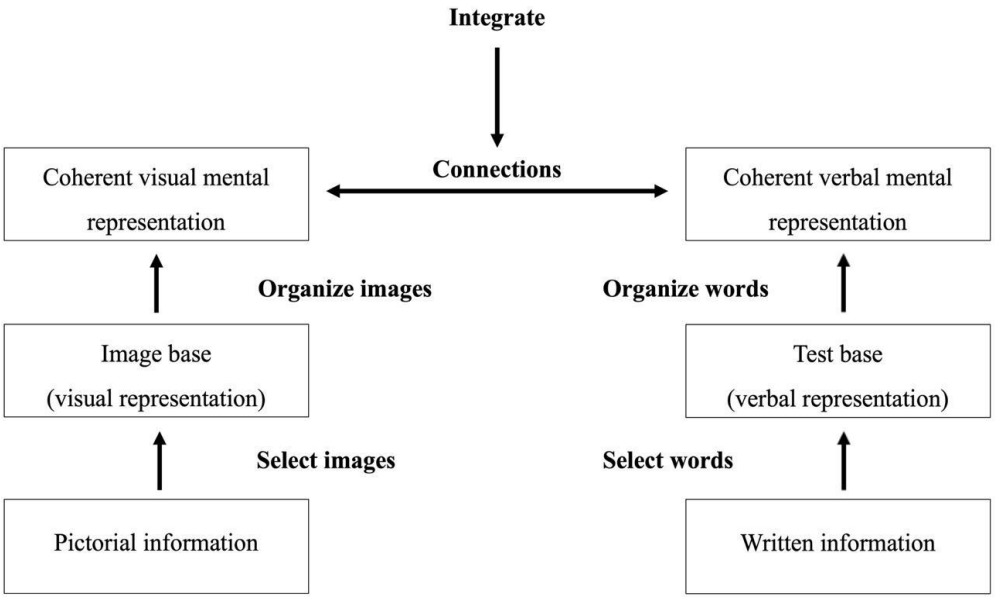

Figure 1. Mayer's (1997, 2001) theory of multimedia learning (Jones & Plass, 2002)

3. Literature review

3.1 Captioned video & L2 vocabulary learning

Much of the research on video for L2 learning has focused on the use of captions and their effects on vocabulary development, with a particular emphasis on comparing L1, L2, and non-captioning groups. The students in Bianchi and Ciabattoni's (2008) study who used L1 captions and L2 captions were found to make more significant improvements on long-term vocabulary acquisition than those who used no captions while viewing movies. However, language proficiency did have an impact, as beginner learners benefited least from L2 captions while advanced students benefited the most. In a year-long longitudinal study involving adolescent L2 learners, Pujadas and Muñoz (2019) investigated the role of caption type (L1 vs. L2), proficiency, and pre-teaching on vocabulary form recall and meaning recall. The researchers

found that both captioning groups were equally as effective in terms of vocabulary development, but that pre-teaching the target words and a higher level of language proficiency led to greater gains.

There seem to be conflicting results when it comes to other forms of captioning, such as keyword captions or glosses. In a study involving five different captioning groups, Hsieh (2019) found that the full captions with highlighted target words and L1 gloss condition best promoted word form and meaning learning. Not surprisingly, the no captions group and the full captions with no audio group were found to perform the worst in terms of vocabulary learning. In a recent study focusing on incidental vocabulary learning among primary L2 English learners, Teng (2019) investigated how different forms of captioning (full captions, keyword captions, no captions) affected word form/meaning recognition word recall of meaning. According to the results of the study, those in the full captioning group significantly outperformed the other two groups. Montero Perez, Peters, Clarebout, and Desmet (2014) also investigated vocabulary learning using four different types of tests: form recognition, clip association, recall, and meaning recognition. The results of their study revealed that the three caption groups outperformed the control group on three of the tests (form recognition, clip association, meaning recognition), while no significant differences were found in relation to the meaning recall. On the other hand, their findings also indicated that the form of captioning used (full captions, keyword captions, full captions with keywords highlighted) did not result in significant differences between the three groups, thereby illustrating that captioning, regardless of type, can make a positive impact on vocabulary development. In a similar study examining the same four aspects of vocabulary, Montero Perez, Peters, and Desmet (2015) found that students who used keyword captions outperformed full captions on the form recognition test. Lastly, in a follow-up study by Montero Perez et al. (2018) involving four L2 captioning conditions (full, keyword, glossed keyword with access to meaning, and no captions), the researchers found that the glossed keyword captions group outperformed the other forms of captioning on form recognition and meaning recall, which illustrates that access to meaning may benefit L2 learners when they watch the video.

As noted by Vidal (2003), little research has been done on vocabulary learning via aural input. Having said that, there have been a few studies that have investigated the effects of this input method on vocabulary learning. Winke et al. (2010), for instance, examined the use of target-language captioned video on written and aural vocabulary knowledge and found that the caption group outperformed the control group on both variables on the post-test. In another study, Peters, Heynen, and Puimège (2016) examined L1 and L2 captions in two exploratory experiments. The first experiment focused on form recognition and meaning recall of aural vocabulary. It was found that caption type did not predict meaning recall but that L1 captions better promoted form recognition. In their second experiment, which examined form recognition and meaning recall of written vocabulary, positive effects for captions were found in form recall but not form recognition. Similarly, Syodorendo (2010) looked at the effects of input modality on vocabulary acquisition. In a mixed-methods study of twenty-six Russian

English language learners, the researcher found that video supplemented with captions resulted in greater word form recall and word meaning recall, while non-captioned video improved recognition of aural word forms. Another important finding from the study was that some of the participants indicated the tendency to focus on the captions more than the audio if captions were provided, which is a complaint echoed by the participants in Winke et al. (2010). Moreover, all participants indicated the importance of having visual images as beneficial to their understanding of the spoken input, thus illustrating the importance of visual input alongside aural input.

3.2 Video streaming in L2 learning

Even though video streaming services have been mentioned in L2 literature as having the potential to be used for language learning (Godwin-Jones, 2018; Rosell-Aguilar, 2017), few studies have actually examined their use in the context of foreign language learning in empirical research. Only two studies have looked at video streaming and language learning to the best of the authors' knowledge. One is Dizon's (2018) case study on the use of Netflix with EFL learners. The learners were allowed to use the video streaming service however they desired and were under no obligation to use it specifically for language learning. Following the end of their 3-month membership, the students were interviewed to understand their opinions towards Netflix as a language learning tool. According to the interview data, several themes were identified. First, student comments suggested that learner effectiveness was improved through the use of L1/L2 captions. Secondly, the service enhanced motivation because it was a fun way to study English. Additionally, the learners indicated that they had better access to cultural and linguistic information by watching TV programs and films via Netflix. However, one disadvantage that the participants noted was a lack of convenience due to the large amount of data required to stream video on their mobile devices. Therefore, some of them limited their use of the service to when they had access to Wi-Fi. Another study that has specifically looked at video streaming in the context of L2 learning is Wang and Chen's (2019) research on the use of YouTube as an informal language learning resource. The researchers interviewed university students in Taiwan who had extensive experience in watching L2 English-learning YouTube videos to understand the affordances and limitations of the streaming service for foreign language learning. Based on these interviews, a few key advantages were discovered, namely, that learning English via YouTube was more flexible, interactive, and interesting for the L2 learners. That said, the students also felt that the streaming service was ineffective at improving L2 development. Although results from these two studies were largely positive, they involved a small number of participants and did not examine any language gains the students may have made. Thus, there is still a need to investigate if video streaming services can have an impact on the development of L2 skills.

In summary, the use of L1 and/or L2 captions seems to be beneficial for language learners in terms of vocabulary learning (Bianchi & Ciabattoni, 2008; Pujadas & Muñoz, 2019). Yet, when it comes to other caption types, namely, full captions vs. keyword captions, it is not clear what form best promotes vocabulary learning. While the aforementioned literature

highlights the positive effects of captioned video on L2 vocabulary learning, there are still gaps that need to be addressed. First, the use of interactive video has yet to be studied in the context of L2 learning. As an emerging technology that the researchers predict will only continue to grow, it is critical to evaluate the tool for language learning. Compared with traditional video in which a learner passively takes in input, interactive video has the potential to direct more attention to input, particularly written information in the form of on-screen text when students are prompted to make choices that impact the story (see Figure 1). Moreover, despite their widespread use and popularity, research on video streaming services in the context of language learning is scarce. Although video in the form of DVDs and downloadable content has been available for more than a decade, the advent of video streaming and the ubiquity of smartphones has made language learning via video much more flexible for learners (Wang & Chen, 2019). In other words, viewing video, TV shows, and movies in a foreign language has never been easier due to video streaming and mobile devices. Lastly, although some studies have investigated the effects of captions on aural vocabulary learning (Peters et al., 2016; Syodorenko, 2010; Winke et al., 2010), past L2 captioning research has generally focused on written vocabulary development and ignored aural vocabulary. This indicates that more studies ought to be conducted to see if captioned video can positively influence the incidental learning of aural or listening vocabulary.

3.3 Research Questions

Due to these gaps in L2 research, this study looked at the use of interactive video via Netflix to develop L2 English aural vocabulary. Specifically, the following research question was addressed: *Does the use of Netflix and interactive video have a significant effect on L2 English learners' aural vocabulary?*

4. Methods

4.1 Pedagogical Setting & Participants

Fourteen male and female students at a Japanese university participated in the study. These participants were chosen via convenience sampling. The participants were six first- and eight second-year students enrolled in separate communicative English classes, which were taught by the researchers in the fall 2019 semester. Their ages ranged from 18-21, and they were all native-Japanese speakers. Based on the participants' EIKEN scores, their English language ability ranged from A1 to A2 on the CEFR proficiency scale, which equates to a beginner level of English language proficiency.

4.2 Design of the Study

The present study incorporated a counterbalanced, pretest-posttest research design to examine if the use of interactive video via the streaming service Netflix promotes significant enhancements in aural vocabulary at two levels: form recognition and meaning recall. Form recognition refers to the ability to recognize whether or not one has been exposed to a word

(reading or listening), whereas meaning recall is the ability to produce an L1 definition of a target word. While listening comprehension is another commonly studied variable in L2 video research, this was not examined in this study due to the non-linear nature of the interactive video. In other words, each user sees different content depending on their choices, so a listening comprehension test based on the target videos was not feasible.

4.3 Data collection & analysis

The researchers developed an assessment and administered to assess any potential gains in aural vocabulary made by the participants. A total of 20 words were identified (10 per episode) as target vocabulary. All the words were above the 2k word frequency level according to the British National Corpus (BNC) and the Corpus of Contemporary American English (COCA). In other words, they were terms that the participants were less likely to know. Another reason for the focus on target words beyond the 2k word level was that hat the participants were studying the 1k and 2k word levels through a digital flashcard program at the time of the study. Therefore, the inclusion of target vocabulary from these high-frequency word levels might have resulted in test items that the participants largely knew.

The target words were unique to each episode that was shown, regardless of the prompts chosen by the participants. That said, the frequency of occurrence of the words could have differed depending on the individual prompts selected by each participant. However, it is important to stress that the participants were exposed to all the target words at least once, irrespective of their prompt choices. The words contained nouns, adjectives, and verbs (see Table 1 for the list of target vocabulary). The presentation of the target items was audio-recorded by a native British-English speaker, which mirrors the variety of English spoken in the interactive episodes. The speaker repeated each word twice, with a two-second interval between repetitions and a ten-second interval between individual items. In addition to the target words, four non-words were added to control for pre-test post-test learning effects (Nation & Webb, 2011) and were taken from http://lextutor.ca/freq/lists_download/pnwords.html. Four high-frequency words (deliver, rope, balance, village) which appeared in the episodes were also added to aid test motivation (Peters et al., 2016). Similar to Peters et al. (2016), participants were asked to tick “yes” or “no” if they recognized the word for each item. They were also asked to provide an L1 definition of each target word, i.e., meaning recall. The written presentation of the test was in L1 Japanese so that the assessment was clear and understandable for the participants. To be clear, the introduction of the vocabulary items was done aurally; only the instructions were provided in written form. Cronbach’s alpha, which measures the internal consistency of a group of items, was used to assess the reliability of the two sections of the assessment. Values for the form recognition and meaning recall portions of the test were .62 and .80, which indicates slight and moderate reliability, respectively (Brown, 2014).

Table 1. Breakdown of target vocabulary

Target word	Part of speech	BNC-COCA frequency	Episode
ashore	noun	6k	1
canyon	noun	7k	1
bushwhack	verb	17k	1
abandoned	adjective	3k	1
critical	adjective	3k	1
fierce	adjective	3k	1
volcanic	adjective	4k	1
hacking	noun	5k	1
stalking	verb	5k	1
reptile	noun	7k	1
isolated	adjective	3k	2
straining	verb	3k	2
primitive	adjective	4k	2
ticking	verb	4k	2
improvise	verb	5k	2
perishable	adjective	6k	2
trolley	noun	6k	2
commando	noun	7k	2
budge	verb	8k	2
rappel	verb	17k	2

The aural vocabulary pretest was administered in December of 2019. Four weeks later, in January of 2020, the participants viewed the first two episodes of the interactive TV series *You vs. Wild* through Netflix in consecutive class periods. Due to the counterbalanced design, the first-year students watched episode one under the non-interactive condition and episode two under the interactive condition, whereas the second-year students watched episode one under the interactive condition and episode two under the non-interactive condition. In the non-interactive condition, episodes were displayed via class projector, and each prompt choice was determined by letting the selection time period run out, i.e., choices were selected randomly. In the interactive condition, participants watched the episodes individually on desktop PCs located in the classroom or with their individual smartphones and made prompt choices on their own (see Figure 1 for an example prompt from *You vs. Wild*). While the actual length of each episode depends on the choices made, the average run-time of each episode as listed by Netflix was 14 minutes and 20 minutes for episodes 1 and 2, respectively. Due to the participants' English proficiency levels and to enhance comprehension, L1 captions were displayed throughout both episodes, regardless of the condition. After viewing each episode, the participants immediately took the aural vocabulary post-test pertaining to the target words in that particular episode (ten

target words each).

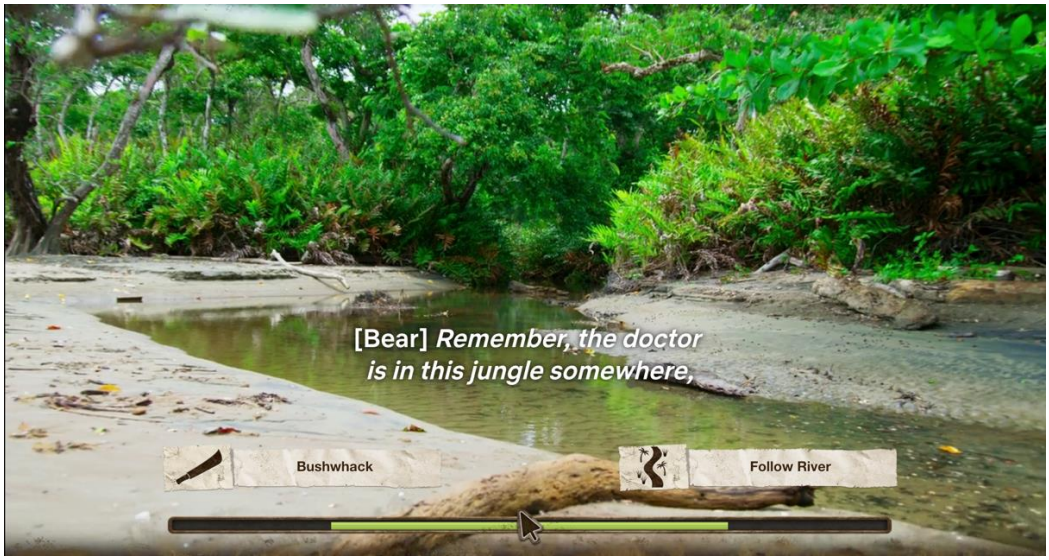

Figure 2. Interactive video prompt is *You vs. Wild*

Given the small sample size, non-parametric statistical tools were used to analyze the data. The Wilcoxon Signed-Rank test was used to analyze the gains made within each group with respect to aural vocabulary form recognition and meaning recall, and the Mann-Whitney U test was used to determine if there were significant differences between the relative gains the non-interactive and interactive conditions were able to make in aural vocabulary form recognition and meaning recall from the pre- to the post-test. Rather than solely examining the differences between pre-and post-test scores with respect to the variables studied, relative gains were calculated based on a formula [(post-test score – pre-test score) / (number of test items – pre-test score) × 100] outlined by Webb and Chang (2015). According to Horst, Cobb and Meara (1998), relative gains may be a more accurate measure of learner improvement compared to absolute gains as they take into account differing opportunities for growth. Descriptive statistics of the students' aural vocabulary test scores were also provided.

5. Results/Findings and discussion

Table 2 below illustrates the pre-and post-test results as it relates to the participants' aural form recognition and meaning recall scores. As the descriptive statistics show, the non-interactive and interactive conditions promoted little to no gain with respect to the variables studied. For the non-interactive condition, form recognition slightly decreased from the pre- to the post-test. Non-positive results were also found in the interactive condition; specifically, there was no difference between the mean pre-test and post-test form recognition results. Likewise, the non-interactive condition ($Z = 1.26$, $p = .20$) nor the interactive condition ($Z = 0.0$, $p = 1.0$) promoted significant improvements in form recognition from the pre-test to the post-test according to the Wilcoxon signed-rank test. When comparing between groups with the

Mann-Whitney U test, a significant difference was not found between the form recognition relative gains of the non-interactive condition and interactive conditions (U = 86.5, p = .61). There were similar results when examining meaning recall. Both the non-interactive and interactive conditions supported small gains in the variable. However, these modest within-group improvements were non-significant in the non-interactive condition (Z = 0.81, p = .41) and the interactive condition (Z = 1.0, p = .31). Similarly, there was not a significant difference between the non-interactive and interactive conditions when it came to relative gains in meaning recall (U = 96, p = .94).

Table 2. Pre- and post-test results

	Pre-test				Post-test			
	Form recognition		Meaning recall		Form recognition		Meaning recall	
	M	SD	M	SD	M	SD	M	SD
Non-interactive	4.79	1.53	0.79	1.12	4.50	2.03	1.07	1.38
Interactive	4.71	1.27	0.29	0.61	4.71	1.68	0.57	1.16

There are several possible explanations for the lack of improvements. First, the frequency of occurrence of the target words could have had an impact on the results. Prior research has indicated that more frequent exposures to a word lead to more successful learning (Teng, 2019). Yet, this variable could not be controlled in the study as interactive video is non-linear. Another plausible explanation for the non-gains may be the incorporation of low-frequency words, which likely led to a higher "learning burden" for the students (Laufer, 2005, p. 234). The target vocabulary words were chosen due to their difficulty and unfamiliarity, and this possibly made it too challenging for the students to recognize and learn these terms. Furthermore, it is difficult to infer the meaning of unfamiliar words in real-time (Buck, 2001), so the learners may have been unable to learn the words as they could have appeared only once, and the students could not replay portions of the video. The use of L1 instead of L2 captions is another factor that might have influenced the results. There were likely instances where there was a mismatch between what the learners heard in English versus what they simultaneously read in Japanese, and these inconsistencies could have had a negative influence on aural vocabulary learning.

6. Conclusion

Interactive video is an emerging technology and thus should be investigated for its language learning potential. Accordingly, this study was conducted to evaluate the efficacy of the technology to support aural developments in the target language, making it the first research to involve interactive video in the context of L2 learning. However, while Mayer's (1997, 2001) theory of multimedia learning posits that video watching affords L2 learners with listening

comprehension and vocabulary learning benefits, the present study resulted in no to limited gains in the variables studied. Participants in the interactive condition did not make significantly greater gains in form recognition or meaning recall than the non-interactive condition. The findings from this study suggest that interactive video via streaming services may not offer any aural vocabulary learning benefits over traditional video. Although interactivity has been viewed as a positive for L2 learning (e.g., Chapelle, 2005), its incorporation may have had a detrimental effect in that students could have paid more attention to the entertainment aspect of the videos rather than the English audio track. This mirrors the warning Vanderplank (2010) made concerning leisure viewing and how learners may associate movies and TV shows with entertainment, which in turn may restrict the potential of video to support L2 development. As a result, the researchers cannot recommend the use of interactive video in the language classroom at this time. However, it is important to stress the small sample size, which likely substantially influenced the results. In other words, the participants may not have been representative of the impact that interactive video can have on aural language learning. Therefore, it is important to conduct more studies on the use of interactive video with L2 learners to gain a more comprehensive understanding of its affordances, especially since technology-mediated L2 learning has been shown to bring about positive effects on all four language skills, that is, listening, speaking, reading, and writing (Van et al., 2021).

Other limitations of the study include the non-randomized research design. Because of this, future studies involving video streaming and/or interactive video should be taken from a randomized and much larger sample. Another limitation was that the type of on-screen text in the study was limited to L1 captions. Research involving textual aids with L2 video has largely revolved around examining the types of help options that best promote language learning. Thus, a worthwhile avenue of research would be to compare the efficacy of L1 and L2 captions when viewing the interactive video. Furthermore, the learners' views on video streaming and interactive video were not obtained. As a result, it would be valuable to evaluate L2 learner perceptions towards these emerging technologies through the use of surveys, interviews, and/or reflective reports. Lastly, although this study did not examine this variable, a future one could examine if interactive video affects L2 listening, given the affordances that technology provides in L2 listening development (Nguyen, 2021).

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Non-English Major Students' Perceptions Towards TOEIC Online Learning and Testing

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Abstract

Due to the pandemic, schools in Vietnam are currently closed, resulting in a substantial shift from face-to-face to e-learning, as well as significant educational modifications. Correspondingly, both learning and testing must be modified to fit the current COVID-19 outbreak, emerging the need to address students' perceptions on the usage of the aforementioned issues. This study was carried out to evaluate how students perceived online learning and testing in TOEIC preparation courses at a university in HCMC, as this issue has grown increasingly impossible to ignore. The data for this study, which involved 55 students, was collected using a case study with the employment of interviews and surveys. The findings revealed that while online learning aided students during the COVID-19 epidemic, students still encountered some obstacles due to diminished teacher-student interaction and technological challenges. Besides the advantages of TOEIC online testing during this outbreak, the complicated manipulation, cheating, and unstable internet connection were considered as the disadvantages of students. This paper is intended to serve as a resource for teachers who are in charge of TOEIC online courses as well as a vehicle for further studies.

Keywords: TOEIC preparation courses, online learning, online testing

1. Introduction

The COVID-19 pandemic has had a significant impact on many parts of life around the world, including schooling. Over 1,6 billion students, 100 million instructors, and educational institutions in over 190 countries were affected by school closures last year (UNESCO, 2020). To date, the pandemic has caused considerable educational disruptions, with complete or partial school cancellations. As a result, today's educational system has undergone major modifications. Not only institutions but also each and every learner must change in order to adapt to current conditions.

The unexpected closure of schools and universities in Vietnam has resulted in a significant movement from traditional to virtual classrooms. The change requires teachers to use technology in conjunction with interaction to fit the teaching and learning process and meet students' needs. According to Bhatti (2021), technology in education is a critical step that aids teachers and students throughout the teaching and learning time. In addition, technology is an important element in e-learning because it may assist students in enhancing their English proficiency (Nguyen, 2021).

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In fact, implementing an e-learning platform is thought to be a good solution to meet the Covid-19 pandemic. With the abrupt move from traditional classrooms to online ones, a number of concerns have arisen that need to be investigated in terms of the benefits and challenges that both teachers and students face. Students' perceptions of performance, pleasure, and preference for the new learning platform, in particular, should be considered. In addition to online learning, the testing procedure has been altered, which significantly impacts students' learning methods and outcomes. As a result, teachers must place a strong emphasis on online assessment.

In light of the current situation, students have signed up for a variety of e-learning courses. In many institutions, English is one of the required courses. To achieve graduation requirements, university students must obtain an English certificate. As a result, during the pandemic, a high number of students enroll in TOEIC online courses. Learners face numerous challenges when participating in virtual classrooms using new learning technology. Furthermore, they must take online examinations rather than paper tests, which is considered difficult exam. Hence, the study's main goal was to see how non-majored students felt about TOEIC online learning and testing. English teachers can then strengthen their teaching methods to assist students in dealing with the inevitable COVID-19 pandemic.

2. Literature review

2.1. An overview of the TOEIC course

TOEIC is a fair and valid evaluation of English-language listening and reading skills for the workplace widely used worldwide. Because of its significance, the TOEIC Listening and Reading Test is one of the standardized English proficiency examinations that most institutions and colleges in Vietnam utilize to determine graduation requirements.

The main purpose of the Test of English for International Communication (TOEIC) is to evaluate people who work in an international setting who speak a language other than English as their first language's everyday English skills (ETS, 2015a, 2016a; Powers & Powers, 2015). As a result, TOEIC courses at the university under scrutiny are meant to help students understand and respond to issues in real-world circumstances. Lesson content intentionally focuses on grammar and words that are utilized in real-life situations. Teachers give students with grammar points and vocabulary linked to TOEIC topics in each lesson. Teachers also teach students various test-taking tactics so that they can maximize their time and achieve higher results.

2.2. Online learning in education

Almost all institutions and colleges in Vietnam have chosen to convert to online learning in order to assure learning continuity. According to Douglas & Van Der Vyver (2004), online learning has gotten a lot of attention as a way to provide alternatives to traditional face-to-face, instructor-led education.

“E-learning,” sometimes referred to as online learning, Web-based learning, distance learning, and technology-based learning, is a concept that has garnered significant global attention; the importance of e-learning is therefore universal (Waight et al., 2004). According to Karatza et al. (2007), online learning refers to the use of any kind of electronic forms of information, which delivers knowledge and courses, as well as to the use of a network's advantages.

Long (2004) classified two types of e-learning which are asynchronous and synchronous modes. These two modes of e-learning are characterized by the nature of learner-facilitator interaction. Asynchronous mode provides learners with information that the learner can interact

with thereafter; meanwhile, the use of chat rooms, online dialogue among learners, and between learners and the facilitator are typical of the synchronous mode. Teachers and students participate in scheduled classes that they can register for on their own at the institution under investigation, which uses synchronous interactive settings. Cantoni, Cellario, and Porta (2004, as cited in Hassan et al., 2012) listed various advantages of E-learning such as being less expensive to deliver, self-paced (e-learning courses can be taken when needed), faster (learners can skip material they already know), provide consistent content (while traditional learning different teachers may teach different material about the same subject), work (e-learners can take training sessions when they want), easily and quickly updated (online e-learning sessions are especially easy to keep up to date because updated materials are simply uploaded to a server), lead to increased retention and a stronger grasp on the subject (due to many elements that are combined in e-learning to reinforce the message such as video, audio, quizzes, and interaction), easily managed for learning. Long (2004) mentioned a variety of advantages of E-learning regarding institutions and learners. In terms of personal learner advantages, seven advantages often mentioned were reduced travel time and costs for learners, self-paced learning whereby learners can control their schedules, convenience of any time and any place, opportunity for repeated practice, ease of review, self-responsibility, and freedom.

On the contrary, several challenges of online learning have been explored by researchers. In their case study, Barrot et al. (2021) found out that the learning environment was the greatest challenge, specifically distractions at home and limitations in learning space and facilities. Furthermore, online learning restricted students' learning experience (e.g., internship and laboratory experiments), limited their interaction with peers and teachers, caused depression, stress, and anxiety among students, and depleted the financial resources of those who belong to lower-income groups. Nguyen (2021) discussed four disadvantages of online learning: the overmuch amount of work, technical problems, no self-discipline, limited interactions, and anxiety overusing technology.

Obviously, there are not only advantages but also disadvantages to this new approach to learning; thus, students' experiences and opinions should be considered. Specifically, students at the university under study have been coping with this learning approach for a while, so it is a must for educators to look into their current circumstances in order to make any adjustments if possible.

2.3. Online testing

The TOEIC Listening and Reading test was a paper-and-pencil, multiple-choice evaluation in the years leading up to the pandemic. In the event of an outbreak, however, universities and colleges will need to change their approach to learning and testing. Online assessments are intended to be used as an alternative to face-to-face tests; as a result, adopting an assessment procedure that relies on electronic versions of exams necessitates extensive planning (Sarrayrih & Ilyas, 2013). Quizzes and tests are the most popular types of testing, with students synchronously answering multiple-choice questions. Students access a link provided by teachers during the allotted time and then take 15-minute quizzes. When the timer runs out, teachers close the link. In the same vein, the final tests, which last 90 minutes, are carried out. Because this type of assessment adjustment is new to Vietnamese students, they may have different perspectives on the subject. As a result, investigating students' attitudes about online learning and testing is critical.

2.4. Research questions

To fulfill the purpose of the study, the survey was seeking to answer the following research questions:

1. What advantages and disadvantages do students have during the use of online learning?
2. How do students perceive the implementation of online testing?

Research design

3.1. Research participants

The participants in this study were 55 non-English major students who had completed TOEIC preparation course three at a private university in Ho Chi Minh City. They were all Vietnamese at different English levels and had passed the Ministry of Education and Training's National College Entrance Exam. These participants were chosen based on the convenience of the researchers.

3.2. Research design

In order to meet the aims of the study, the research approach used in this paper would be a mixed-methods design. According to Creswell and Plano Clark (2011), A mixed methods research design is a way for gathering, analyzing, and "mixing" quantitative and qualitative methodologies in a single study or a series of studies to better understand a research subject. The TOEIC program was a nine-week training course comprising a five-period class per week for the first five weeks of TOEIC virtual lessons. Then for the rest of the course, the number of classes for each week was doubled. A structured questionnaire using Google Forms, followed by telephone interviews, was used to collect data. Subsequent to the completion of the courses, the researchers would conduct an online survey of all respondents to learn more about their impressions of the TOEIC online courses' learning and evaluation. In addition, five students were interviewed over the phone in order to gain their inner thoughts about TOEIC virtual lessons. The information gathered through surveys and student interviews would be thoroughly scrutinized by SPSS 22 and thematic analysis software, respectively.

3.3. Instruments

To collect sufficient data for the research, two standard instruments, including questionnaire and interview, were used.

3.3.1. Questionnaire

A survey was employed as a research tool to supplement the data and gain a better understanding of the use of TOEIC online lessons. The questionnaire was delivered to 64 students immediately after they finished their exam, and the data obtained consisted of 55 entirely completed questionnaires. At first, students were given a two-part questionnaire utilizing Google Forms to collect personal information as well as their opinions on TOEIC online learning and testing. Part 1 included five items that elicited personal information, including gender, major, undergraduate academic level, and the number of participated online courses. In part 2, participants were required to choose a number. Then in part 2, participants selected a number on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) to react to 17 questions on this course, particularly their understanding and experience with the TOEIC online course during the COVID-19 pandemic period. These statements were initially composed in English and then translated to Vietnamese to grasp the

point and give the best responses. Following that, they must evaluate their final performance at the end of the course in terms of benefits and drawbacks. The reliability of the questionnaire is presented as follows.

Table 3.1. Reliability of the questionnaire

	Cronbach's alpha
Advantages of TOEIC online learning	**.717**
Disadvantages of TOEIC online learning	**.700**
Advantages of TOEIC online testing	**.702**
Disadvantages of TOEIC online testing	**.704**

Cronbach's alpha of .60 was considered satisfactory by Clark & Watson (1995). Furthermore, Bynner & Stribley (1979) indicated that Cronbach's alpha internal consistency larger than .67 was acceptable (as cited in Ho, 2015). As a consequence, the four alpha values of .717, .700, .702, and .704 were acceptable.

3.3.2 Interview

After gathering the questionnaire statistics, five students were chosen at random for the interview to identify the core problems. Because of the COVID-19 pandemic, participants were given phone interviews to answer questions based on survey data. The talks were held and recorded in Vietnamese in order to get thorough information about participants' attitudes regarding TOEIC online learning and assessment. The data were then transcribed by an online speech-to-text tool (Amberscript.com), translated into English, and extensively examined to provide a comprehensive understanding of the concerns. The English versions were automatically coded by thematic analysis software with the aim of breaking the text up into themes.

Findings and discussions

As previously stated, the goal of this survey is to determine non-English major students' attitudes regarding TOEIC online learning and assessment. The researchers identified two major themes in students' perceptions of the course for this study: Perceptions of TOEIC online learning and Perceptions of TOEIC online assessment.

4.1. Students' perceptions towards TOEIC online learning

4.1.1. Advantages of TOEIC online learning

To identify the advantages from learning TOEIC online, students' responses on the TOEIC online learning were analyzed. The descriptive statistics are provided in table 4.2.

Students' responses to the TOEIC online learning were studied to determine the benefits of learning TOEIC online. Table 4.2 shows the descriptive statistics.

The chart below shows that students agreed with the advantages of online learning (item LA2-LA6) in the questionnaire (mean score 3.382-4.364). The use of online classrooms during the COVID-19 epidemic received the most agreement (M=4.364) among the five benefits stated above. Meanwhile, they were uninterested in learning TOEIC on the internet (M=2.855). A small minority of respondents (18.1%)expressed interest in online lessons.

Table 4.1. Students' perceptions about the advantages of TOEIC online learning

Variables	1	2	3	4	5	Mean
Build excitement for learning	0 (0%)	20 (36.4%)	25 (45.5%)	8 (14.5%)	2 (3.6%)	2.855
Choose flexible learning location	0 (0%)	1 (18%)	11 (20%)	32 (58.2%)	11 (20%)	3.964
Access to online materials	0 (0%)	2 (3.7%)	19 (34.4%)	30 (54.6%)	4 (7.3%)	3.964
Record online lectures	1 (1.8%)	1 (1.8%)	11 (20%)	36 (65.5%)	7 (12.7%)	3.891
Complete assignments faster	1 (1.8%)	5 (9%)	25 (45.5%)	20 (36.4%)	4 (7.3%)	3.382
Correspond with Covid-19 crisis	0 (0%)	0 (0%)	2 (3.6%)	31 (56.4%)	22 (40%)	4.364

Note. 1: Totally disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Totally agree

With regard to the table, the highest figures were those with neutral attitude and disagreement at 45.5 % and 36.4 %, respectively. Likewise, less than a fifth (18.1%) agreed that TOEIC online lessons could excite the participants. As a result of this, it can be concluded that the majority of participants are not interested in virtual classrooms. The findings agreed with Mahyoob's viewpoint (2020). The majority of EFL students, according to the researcher, were dissatisfied with their online learning. They believed that virtual classrooms would not be able to assist them in making the necessary linguistic improvement.

> *It's difficult for me to focus for four hours on online lessons. When learning listening parts, I get bored and fatigued easily. I like to take TOEIC classes with my teacher and friends at school since I can engage with them. (S2)*
>
> *I get bored looking at the screen for long periods of time. Online classes, in my opinion, are not as fascinating as those at school. (S4)*

As shown in Table 4.1, 78.2 % (accounting for 43 respondents) showed their agreement and strong agreement in their favor of choosing a learning location during the COVID-19 epidemic. Participants stressed the flexibility of choosing a learning location as one of the benefits of TOEIC online learning. This helped them save time and money on travel expenses. Online learning is an easy way to bring remote lecturers into a course. This result confirmed what Bartley & Golek (2004) had discovered concerning the flexibility of locations without the time and expense of travel.

> *My commute to school takes more than 45 minutes, but now I can stay at home and participate in TOEIC class. I believe that learning English at home rather than at school is much more convenient for my friends and me. (S1)*
>
> *In my perspective, enrolling in a TOEIC online class is preferable because it eliminates my need to commute from home to school. As a result, I'll be able to save money and time. (S3)*

The majority of participants (accounting for 61.9%) found it easy and fast to download online materials, while only two students (3.7%) had difficulty getting the e-book used in the TOEIC course. Thurmond (2003) claimed that online learning gave learners access to a wealth of online materials. They also discovered that getting to relevant websites was simple. As a result, students could enroll in a variety of classes without having to spend time or money on textbooks.

Furthermore, one of the benefits that most of the participants (78.2%) can obtain from TOEIC online sessions is the ability to record online lectures. Students can record lectures to watch later if they don't understand the lessons or are unable to participate in an online classroom, unlike in an offline classroom. These findings are consistent with those of Muthuprasad et al. (2021) from the same COVID-19 phase, who found that the majority of respondents prefer recorded lessons and live sessions that can be recorded since it allows them more flexibility in learning. When the respondents were questioned about the advantages of learning TOEIC online, this finding was relevant to the interview outcomes.

> *When I am unable to attend a TOEIC lesson, I can download the recordings. I think it's a good approach for me to keep track of the lessons. (S2)*
>
> *I am unable to record the entire lecture when I am at school. However, I am allowed to record the lectures and watch the videos if I do not understand some grammar issues. (S4)*

With 45 percent and 43.7 percent, respectively, the number of participants who claimed a neutral attitude toward doing online assignments was slightly higher than the number of participants who agreed on this topic. Meanwhile, only 6 (2.7%) of participants denied finishing assignments more quickly.

Finally, a large majority of respondents believed that TOEIC online programs should be used during the COVID-19 crisis. Because TOEIC is one of the graduation requirements, students should enroll in this course even if they are learning online. They said they appreciated using TOEIC online learning during the present period, and they shared the following information.

> *Because I am now a senior, I need a TOEIC certificate in order to fulfill graduation requirements. I believe that students, particularly fourth-year students, should take advantage of online education. (S1)*
>
> *One of the most important subjects at university is English. I enjoy learning TOEIC at school because it allows me to engage with my teacher. However, because of the COVID-19 epidemic, I am now unable to participate in any offline classes. (S5)*

4.1.2 Disadvantages of TOEIC online learning

In the table below, descriptive data from the next four questionnaire items about the drawbacks of TOEIC online learning were coded and analyzed.

Table 4.2 Students' perceptions about the disadvantages of TOEIC online learning

Variables	1	2	3	4	5	Mean
Reduce teachers-students interaction	0 (0%)	3 (5.5%)	13 (23.6%)	35 (63.6%)	4 (7.3%)	3.727
Lack online learning strategies	0 (0%)	7 (12.7%)	30 (54.5%)	15 (27.3%)	3 (5.5%)	3.255
Get accustomed to conventional learning method	0 (0%)	7 (12.7%)	36 (65.5%)	10 (18.2%)	2 (3.6%)	3.127
Lack sufficient digital infrastructure devices (electronic devices,…)	1 (1.8%)	2 (3.6%)	11 (20.0%)	35 (63.6%)	6 (10.9%)	3.782

As shown in Table 4.2, 70.9 percent of respondents (representing 39 people) agreed or strongly agreed with the idea of limiting teacher-student interaction. Only three of them (5.5 percent) were dissatisfied with the online classroom's communication restrictions. The lack of nonverbal communication such as body language, facial expression, and eye contact hampers students' interest. This finding supports evidence from the research of Barticulon et al. (2021) and Wut (2021) within the same context during the Covid19 period, poor communication or lack of clear directions from educators distract students from their learning process. Online learning, according to interviewees, increases their passiveness since teachers are unable to directly observe their actions.

> *I usually turn off the camera when participating in online classes because my room is untidy. I do not want to catch others' attention. Moreover, I can lay the blame on technical problems so that teachers cannot read my face, mood, and actions. (S5)*

> *In my opinion, the virtual classroom has no facial expressions and body gestures as well, which significantly decreases its vividness... It may lessen students' motivation and activeness... (S3)*

In addition, the proportion of respondents' lack of experiences of online learning nearly tripled the percentage of disagreements on this issue with 33.8% and 12.7%, respectively. The learning process previously was conducted in schools with a face-to-face system, but during the COVID-19 pandemic, the learning process was carried out from home through the online system by utilizing existing media. Because online learning is still a new concept, shifting entirely to online learning challenges students in educational institutions in Vietnam. Consequently, this digital transformation of teaching methods brought with it a number of practical issues as well as behavioral changes, which had a close correlation with the findings in Ribeiro (2020).

> *I have a few experiences with TOEIC online learning. When suddenly changed from the traditional learning method to a new learning method, I was quite confused. I attended the classes; however, I could not keep up with my classmates. (S2)*

> *I cannot apply my previous learning strategies like peer learning. To be honest, following teachers' instructions is uneasy, and it is difficult to ask my friends for help at the same time as I did. (S5)*

Twelve students (accounting for 21.8%) were familiar with traditional learning methods, while more than half of them (12.7%) stated no difference between traditional learning methods and online learning methods. It is worth noting that nearly two-thirds of respondents (36 students) maintained a neutral attitude to this issue. As Wut (2021) mentioned, the lack of teamwork with their peer students is one of the major challenges in online courses. In a conventional classroom setting, learners can directly discuss with their professors and peers to seek possible answers to their queries or feasible solutions to various issues or hurdles to their learning. However, it is difficult to achieve in online courses. Obviously, conventional classroom settings provide a sense of pleasure with their peers, whereas contemporary online learning platforms establish a less communicative environment.

> *I consider that there are no more differences between online learning and traditional learning. .... However, my friends usually complain about the inconvenience of interaction and cooperation with classmates during lessons. (S1)*

> *I was familiar with the traditional classroom environment. Hence, when joining the new online course, I liked a fish out of water. It took time to get used to this learning method… I see that teamwork skills in TOEIC traditional classrooms are more effective than in online ones. (S4)*

Finally, the lack of proper electronic gadgets was the most accepted difficulty of TOEIC online learning during the Covid 19 outbreak, accounting for 74.5% (including 41 respondents). Students' living standards are inextricably linked to the quality of high-tech equipment they own, resulting in a negative online learning experience. This finding is consistent with that of Appanna (2008) about the infrastructure differences among learners, which can be a strain on students' budgets. When asked, the interviewees claimed that their technological devices made it difficult for them to focus on the teacher's presentation.

> *Due to financial problems, I cannot own a laptop, and it is difficult for me to observe or read the passage through my mobile screen. This really made me annoyed, and I could not answer the questions correctly. (S3)*

> *My laptop configuration is an out-of-date mode, so it often performs poorly and lags whenever I access the online classroom. (S2)*

4.2. Students' perceptions towards TOEIC online testing

4.2.1. Advantages of TOEIC online testing

Students' perceptions on the advantages of TOEIC online testing were tabulated and presented in table 4.5; then the data were interpreted as follows.

Table 4.3. Students' perceptions about the advantages of TOEIC online testing

Variables	1	2	3	4	5	Mean
Lessen the anxiety	1 (1.8%)	3 (5.5%)	16 (29.1%)	25 (45.5%)	10 (18.2%)	3.727
Provide immediate results	1 (1.8%)	2 (3.6%)	5 (9.1%)	36 (65.5%)	11 (20%)	3.982
Be feasible with TOEIC tests	1 (1.8%)	3 (5.5%)	21 (38.2%)	26 (47.3%)	4 (7.3%)	3.527
Be equivalent to the test format	0 (0%)	1 (1.8%)	16 (29.1%)	33 (60%)	5 (9.1%)	3.764

First, the majority of students (63.7%) felt that taking online examinations reduces their anxiety as compared to paper-based tests. In a different perspective, according to Shraim (2019), three-quarters of participants disagreed that online exams reduce stress and anxiety. In this study, students may get used to the new approach of learning, which helps them be more confident in their examinations. The students made the following assertions:

> *When I take the exams at school, I feel nervous as I have to sit still and listen to the teacher's instructions. Now I can be at ease taking the test at home, in my room, or anywhere else I like. (S1)*
>
> *I feel reassured because any teachers or proctors do not look at me. (S2)*

Second, unlike paper-based assessments, students were able to obtain their test results quickly since the testing system provided immediate results. This aligns with previous studies that online examinations are advantageous in giving immediate feedback, which benefits students in several aspects (Heinrich et al., 2009; Dreher et al., 2011; Hodgson & Pang, 2012). Prior to the epidemic, teachers needed time to mark students' exam papers or had to wait for the results if they took the papers to a testing center where a machine or gadgets marked them. At present, students could directly accomplish the test online and know their scores on the spot.

> *It's really convenient as I could see my test score immediately. In case I fail and need to register for a new course, it would be much faster for me to plan for it. (S4)*
>
> *Waiting for the test scores is somewhat an irritable experience. Now I can know my result shortly. (S1)*

Following that, 54.6 percent of students agreed that this type of online testing was appropriate for the TOEIC test. Only four students out of 55 (7.3%) believed this was inappropriate for the exam. However, in his study, Shraim (2019) concluded that participants perceived online exams as invalid, in that they were not appropriate for many subjects (77% of participants) and not well-suited for assessing the higher-order thinking skills (81% of participants). As his study was carried out before the pandemic, the use of online learning was not as popular at the present time. During the pandemic, this studying and assessment method was deemed the most practical, and most institutes and universities adopted it.

> *I believe this is the only way that my university can apply to continue teaching and learning. This is suitable for all the subjects in this COVID-19 outbreak, including TOEIC courses. (S2)*

Yes, this is absolutely okay for this time, especially since we are a young generation and nowadays we are using the internet and computers every day. So online testing is suitable for our learning and testing. (S3)

Last but not least, the equivalent test format was considered superior to the TOEIC online testing since students were familiar with the question types that they had learned. More than 69% of the students shared this point. Meanwhile, only one student had different thinking. The students gave additional ideas.

I feel confident as I have done various actual tests before. So I believe I can get a high score on this test, too. (S3)

Because I have done this type of test so far, I am always ready with online exams. I intend to register and take the TOEIC test at ETS later on. (S5)

4.2.2. Disadvantages of TOEIC online testing

Following the students' opinions on the advantages of TOEIC online learning, the disadvantages were enumerated and clarified.

Table 4.4. Students' perceptions about the disadvantages of TOEIC online testing

Variables	1	2	3	4	5	Mean
Be hard to manipulate	0 (0%)	5 (9.1%)	22 (40%)	25 (45.5%)	3 (5.5%)	3.473
Cheat in the exam	0 (0%)	2 (3.6%)	10 (18.2%)	28 (50.9%)	15 (27.3%)	4.018
Struggle with a poor Internet connection	0 (0%)	1 (1.8%)	12 (21.8%)	34 (61.8%)	8 (14.5%)	3.891

The first and foremost drawback of TOEIC online is that it is considerably more difficult to manipulate than paper-based testing, which prevents pupils from achieving high marks. More than half of the students agreed, while 40% were undecided, and only 9.1% disagreed. The students claimed that utilizing the computer hampered their testing since it required them to focus on the screen for too long. Thus, adaptive testing was viewed as problematic, according to Shraim (2019).

It is terribly inconvenient, confusing, and annoying for me to drag and click the mouse forever and ever to answer only one question. It is such bad stuff. I had to look at the screen for so long, which is another problem for my eye. (S2)

Before, when the test was still paper-and-pencil, it was easier for me to read and answer the questions because it was on the same page, or sometimes two pages. Now, the text may be on the page, but the questions are deep below, which I find it hard to drag upward to reread the text. (S5)

Cheating is the next issue that students are concerned about, with 78.2 percent of students agreeing that cheating is a significant matter. Only 3.6 percent (2 students) believed there was no cheating at all, while 18.2 percent held a neutral opinion. In his study, Shraim (2019) claimed that 79% of participants disagreed that online exams are fairer than paper-based ones. Besides,

preventing cheating during online exams can be difficult, given the availability of technologies such as Bluetooth, wireless networking, mobile phones, and wearable technology.

> *This is not fair. Some students can cheat during online exams as they may ask their friends or search the answers on the internet. (S3)*
>
> *Perhaps it is somehow unreliable because students can chat with their close friends and share the answers. I hope they won't share the answers as a group or class. (S4)*

The constraint of internet connection is the last big deal with most of the students, with over 76 percent citing it as one of their disadvantages. Only one student thought that internet access was not an issue for him/her, and 21.8 percent of them remained neutral. It is evident that not all students live in HCMC, as they may return home during or before the Government's social distancing decisions No.15 and 16. As a result, their internet connection is dependent on their location, which can cause problems at times.

> *I am now at home, quite a remote area from the city. Sometimes the internet connection is not stable, which is annoying and inconvenient for me when having online classes, especially sitting exams. I felt nervous because it could be disruptive for more than 2-3 minutes; as a result, I could not accomplish my exam in time, or else I could be out of the exam if the connection was so low. (S2)*
>
> *I registered a 3G internet connection, but the speed was unstable. It was really bad for my exam. (S4)*
>
> *Even students in big cities may get into this trouble. Internet connection really matters if you do not register a high-quality internet connection with fast speed. In my case, the test was sometimes disruptive; luckily, I had enough time to finish the exam. (S5)*

Conclusion

In this study, students' perceptions of the advantages and disadvantages of TOEIC online learning and testing at the university under scrutiny were thoroughly looked into.

The findings revealed that TOEIC online learning was appropriate for Covid 19's current scenario since it provided students with a convenient learning environment, access to materials, and class recordings for reference. On the other hand, students noticed a few drawbacks in TOEIC online learning, which included a lack of appeal for students to study on a screen and a reduction in teacher-student connection. Furthermore, most students cited insufficient infrastructure as a hindrance to successful learning, with the majority claiming that their technological devices hampered them.

Moreover, students' opinions on the implementation of TOEIC online testing were then highlighted based on the data gathered. Students claimed that online examinations were acceptable for TOEIC testing and that they were familiar with the test format, which helped them feel more confident during the exams. Another benefit of online testing noted by students was the ability to receive instant results. In a different manner, students asserted some troubles of online testing, including complicated manipulation, cheating, and unstable internet connection.

This study was narrow to a small number of participants, which is a limitation of generalizability. The study represents a starting point for future TOEIC online course research in the event of an outbreak, with more students participating. Besides, future studies may look at different techniques or strategies to raise students' motivation to learn and get them involved

in more activities and class interaction. Furthermore, it is suggested that applications should be used to prevent or restrict cheating and plagiarism during exams so that students could find online testing trustworthy and satisfying.

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Some Common Ways for Students to Improve Pronunciation during Covid-19 Pandemic

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Abstract

We cannot deny that pronunciation skill plays an essential role in our lives in this integration era. If we have good pronunciation, we can have a chance to get a good job. However, as I researched before, many Vietnamese people nowadays are stuck in pronunciation when speaking English. It means that students can still express their ideas about particular issues. Still, their worst accents may make the listeners misunderstand essential information because they could not wholly hear what students have said. Therefore, this study aims to research learning and to teach English via analyzing some related scientific articles. Besides, we also found a way to learn pronunciation online effectively when the Covid-19 pandemic still occurs everywhere in Ho Chi Minh City, which can help students still protect their health and gain new knowledge at the same time. On the other hand, we also found some helpful exercises that can help students practice pronunciation by themselves after class.

Keywords: pronunciation skill, integration era, online learning, teachers, Covid-19 pandemic

1. Introduction

Speaking skills play an important role in language learning and teaching nowadays, and pronunciation is also an important part of this skill. In the integration era, Vietnamese people have more chances to communicate with foreigners in dealing with a contract, holding a trade promotion, and signing an MOU. If the manager has good speaking skills and good pronunciation that can help the international partners understand the message that we would like to express, their deals may be successful. Therefore, in this paper, the author will introduce the real definition of pronunciation in English speaking activities and the benefits that it brings to the students to help them communicate with the foreigners effectively, and if they achieve a good style of speaking, they will get a good chance in their future career.

The most effective way for students to practice speaking is a face-to-face method in the traditional class. At this time, they can organize many activities to improve their pronunciation. However, because the pandemic of Covid-19 is occurring strongly in Ho Chi Minh City. Most

classes have changed into the online form. It means that students do not have many chances to practice the skill with the teachers/friends, and they must spend much time practicing the skills at home by themselves and this article will point out some effective ways to modify their accents.

To help students improve their pronunciation by themselves, internet and mobile applications and even the traditional coursebook are the most convenient means to help students boost their skills and avoid mistakes while speaking to each other.

According to Norris-Holt (2005), motivation plays an important role in helping students to achieve their goals in learning English or even other foreign languages. It is also a factor that assesses the level of student success in learning ESL as well as another second language. Shaaban (2002) expressed the idea that motivation is also one factor that identifies students' success in learning a second language.

On the other hand, according to Prasant (2018), the students who have worse pronunciation may feel lonely, face-off with difficulties in finding a job, and may be seen as uneducated with superficial knowledge in pronunciation and phonetics.

Besides learning pronunciation skills via online platforms nowadays, Van et al. (2021) and Nguyen (2021) stated that gadgets nowadays are the key tools that help students to improve their English level. On the other hand, Bhatti (2021) showed that information technology has helped teachers to access new information in recent years and helps students to expand their knowledge easily

2. Literature review

a. What is pronunciation?

According to Dalton and Seidholfers (1994), pronunciation is an activity in which the speakers produce sounds to each other. This activity aims to bring meaningful expression messages from speakers to listeners. This activity relates to some factors like intonation, stress, rhythms, phrasing, and timing.

On the other hand, Pourhosein (2016) stated that this is a product of English sounds. Students learn to pronounce words by repeating the sounds they heard, and when they get wrong, teachers will correct their mistakes immediately.

In addition, pronunciation is also a way to speak out one word that is accepted by the crowd.

b. The importance of pronunciation in learning English

According to Underhill (2010), the four reasons below are really helpful to make pronunciation become an important part of learning English. Firstly, pronunciation can be applied to learn other listening, speaking, reading, and writing skills. Secondly, pronunciation

also helps us to improve our listening skills. Besides, it is also a physical side of language, and it impacts our self-esteem.

In addition, if students can read and write well, but they do not pronounce well, it also means that they still cannot acquire the knowledge of the language well. Therefore, if the students would like to succeed in learning a language, the teachers' teaching method is really important.

c. Some helpful tips to improve pronunciation

There are many ways to improve our pronunciation skills. Thanks to Lewis (2020), we have discovered some good ways to help us boost our pronunciation up to a new level. Firstly, students should learn to hear each sound correctly. From that, they can distinguish the differences between all sounds, such as two couples, “l” and “r”, “sh” and “ch”. Secondly, they should practice the movement of the mouth. Pronunciation is a mixture of some activities from many parts of our face like lips, tongue, throat, and jaw. Thirdly, they should use the podcast to learn English, record the hard-to-remember words and repeat them until they can remember them all. Fourthly, let's apply the shadowing method. It means they should repeat all the words that they can hear from the podcasts. Fifthly, they should record themselves to identify their mistakes to improve their pronunciation. Finally, they must spend much time practicing speaking. When they try hard to speak, it also means they can change the way of pronunciation.

d. Some tips for teaching English online for teachers

According to Bhagan (2021), some helpful conditions could help the teachers prepare good online English periods. Firstly, they should pay a lot of money for teaching devices such as the best laptops and high-quality webcam and headphones. Besides, you also need to have enough RAM to make the teaching programs work.

In addition, Benwell (2011) showed some tips that teachers could simplify our online lessons. Firstly, teachers should encourage students to come to the class regularly. Then, teachers will list out some problematic phonemes for students to remember. Next, teachers work on the intonation problems. Simultaneously, teachers also need to emphasize each problematic phoneme for students to apply correctly while they pronounce the word. After that, they must remember the pacing and apply the linking word to make their speech more smooth. Students should also listen to the different accents from different English-speaking countries to improve their listening comprehension skills. After all, they answer the focused question.

2.1 Research Questions

To support the purpose of the study, the investigation aims to answer the following research questions:

1. Which are the best teaching methods that help students to improve their pronunciation?
2. How can teachers support the students’ process of learning pronunciation skills at home?

3. Methods

3.1 Pedagogical Setting & Participants

This study was conducted online by researching the available articles and some available theses. Then the writer will analyze the final result via her own opinions and the articles' authors.

3.2 Design of the Study

This research will use a qualitative method for consuming time, and the method we will apply is content analysis. Although the online learning process occurs easily, the complex process of collecting research data from students via online forms seems not simple. In fact, we should spend really much time brainstorming about the forms of the questions, the arrangement of the forms and we should also spend many hours to attract the students to join in the survey as well as continuously follow the numbers of the participants. It will take us very much time and cause stress. Therefore, it is better to know how to collect data from scientific articles to get all of them easily and not spend many hours for the analysis process.

4. Analysis

a. *Tools*

As we know that, the data we can take from this method includes a graph, images, texts, etc. On the other hand, in this Covid-19 pandemic, the author did not have many good conditions to go out to collect the data. Therefore, this is a good way to serve the aim of this research. According to Bhasin (2020), content analysis brings the researcher a lot of advantages.

Firstly, it reveals the differences in communication in the different contexts. Next, it also showed the relations of some information that we used for showing to the audiences. Thirdly, it shows the international differences in the content of communication in the different contexts. It also detects the reality of expressing information and bias in communication as well as the other types of communication. In addition, it also describes the reaction of the participants clearly.

5. Results

The author will divide this section into two small parts. Firstly, we will list some exercises that students can practice by themselves at home. Secondly, the result will also show the way that teachers can support the students to learn English online as well as assess the results of the process of self-learning English.

At first, after researching some articles, the writer has detected some of the prominent methods and types of exercise which help students to improve their pronunciation skills.

a. Students' practice exercises

According to Purwanto (2019), there are four types of exercises that can help students to improve their pronunciation:

- *Read aloud*

In this exercise, students receive a small word pronunciation exercise at home. It may include some vocabulary or the whole passage. Especially in the example below, this exercise aims to help students read the words that can cause mistakes with the other two in the same line. This word aims to help the students hear what their mouth expresses and avoid the mistake; they can stand in front of the mirror to see the movement of their mouth and hear the sounds that they produce. From that, they can modify the errors they have made when speaking English. The three sentences below will strongly represent examples that can help students modify their pronunciation styles, like the sound "ed" and "th.

1) Bead Bed Bid
2) Catched crashed occupied coughed
3) Through author clothes thumb

- *Listen and Repeat*

This activity can help students boost their level of pronunciation up and modify the pronunciation style. In this activity, students will listen to the whole text or conversation for the first time. Then, the second time, they will hear each sentence in the conversation and repeat it with the whole class or by themselves. After the third time, they still make mistakes; teachers will help them to correct their errors. The most important thing about this activity is that they should turn on their camera for teachers to follow their mouth movement.

- *Tongue Twister*

This method aims to help students have a good reflex in speaking English when they must read a sentence containing the words that have the same initial syllable, which is really difficult to say. They should read these sentences at a fast speed to practice controlling the way they pronounce that string of words. As much they practice, as they can improve their pronunciation style. There are some samples of the tongue-twister sentence below:

1) She sees many ships by the sea-shore
2) She saw the shade of a see-saw.
3) She sells a shell in a sea-shore.
4) This shoe-brush is sold in a shop

- *Recording of Learner's Production*

At the end of the course, the learner can record their voice when they tell the stories or sing a song to identify the mistakes and correct them fast. On the other hand, Maurin (2018) advised the students to learn the phonetic alphabet because when they remember the alphabet, they can distinguish the differences between each sound to have an exact pronunciation for the syllables, which has the same way of reading. Next, he suggested that students should clearly understand the spoken language rules. If they use the spoken language much, the way they pronounce the word of this language becomes more easily. If students have difficulty pronouncing a word, let ask other people to repeat that word, and students will record their

voice to remember the way of speaking the word. Then, they should listen to the radio as much as possible to identify the fluent pronunciation, and they can copy the way the character pronounces the hard word. Finally, do not stop practicing pronunciation by themselves to improve their skills every day.

There are seven ways to improve pronunciation that Maurin (2018) has cited in his paper. However, in this paper, the author has just taken 3 of them because these ways seem so easy to conduct, and we should not spend much time and money for them to improve our pronunciation skills. Every day we need to spend one hour applying one of these ways, and this process must happen continuously in one month to get the highest efficiency. It is also easy for us to find the materials for practicing like CDs or television for listening, a repeating e-book for a tongue twister, and the telephone for recording learners' production.

From these analyses, I also agree with Van et al. (2021)'s opinion that is when students apply technology for learning English. They will recognize the effectiveness of all four macro skills, including listening, reading, writing, and speaking.

b. How can teachers support students in English pronunciation?

In learning English, especially in pronunciation activities, the teacher plays the role of a coach to check and guide the way students pronounce the words. While helping students, they should control some factors such as speech production and speech performance of the students. Besides, they should help students make long-term and short-term plans, do group work on online platforms, work with the record system, and analyze each student's fluency level. Finally, they should tell students to change their awareness of their wrong pronunciation and encourage them to change their pronunciation actively, and they will control the changing process of their students.

6. Conclusion

As we know, in this integration era, pronunciation skills become more and more important with students in their future careers and their lives. However, if the students do not know the effective ways of learning this skill, they cannot pronounce English fluently.

Besides, there are many ways for students to learn pronunciation by themselves at home. The most important thing that students should do now is try their best to learn English pronunciation by themselves, applying all of the methods cited in this article.

Simultaneously, the teacher also plays a vital role in students' self-learning process via online platforms to help them be confident with their ability when they learn at home. According to Kologdarh (2010), teachers should care about the needs and problems of pronunciation. This author also shows that teachers should have a detailed assessment for students to improve their pronunciation skills and avoid errors.

On the other hand, teachers also need to help students distinguish British English and American English in different ways of pronouncing one word between two different cultures.

From that, students can also improve not only their pronunciation skills but also they can improve their speaking skills and listening skills.

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