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English as a Foreign Language Teachers' Challenges of their Online Instruction during the Covid-19 Outbreak in Cambodia



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ៗទៀតរបស់ពួកគាត់ដូចជា អាយុ, បទពិសោធន៍បង្រៀនគិតជាឆ្នាំ, ស្ថានភាពសាលារៀន (ឯកជននិងរដ្ឋ), ទីតាំងសាលារៀន (ទីក្រុង/ ទីប្រជុំជននិងជនបទ), កម្រិតគុណវុឌ្ឍិ (បរិញ្ញាបត្រនិងបរិញ្ញាបត្រជាន់ខ្ពស់), និងកម្រិតប្រាក់ចំណូលប្រចាំខែជាដើម ក៏ត្រូវបានរក ឃើញថា មានឥទ្ធិពលលើបញ្ហាប្រឈមនៃការបង្រៀនតាមប្រព័ន្ធអនឡាញរបស់ពួកគាត់ផងដែរ។ លទ្ធផលនៃការសិក្សានេះអាចជះឥទ្ធ ពលដល់គោលនយោបាយ និងការអនុវត្តសម្រាប់ការជំរុញការអប់រំឌីជីថលនៅក្នុង EFL និងបរិបទអប់រំទូទៅក្នុងប្រទេសកម្ពុជា។ ការសិក្សា នេះបានផ្តល់នូវអនុសាសន៍នានាសម្រាប់ទិសដៅស្រាវជ្រាវនាពេលអនាគត។

Abstract

The field of digital education like online teaching is dynamic and constantly evolving. Online teaching reflects and adapts based on the changes in each country's socio-cultural, demographic, and political aspects. Thus, there is a need to comprehend the activities in the field in order to better inform future research. This study aimed to examine EFL teacher's challenges of their online teaching introduced by Siddiquei and Kathpal (2021) through the six main constructs: students, institution support, teachers themselves, teaching contents, motivation, and technological infrastructure. The study surveyed 160 EFL teachers by employing purposive sampling. These participants were asked to complete the online surveyed questionnaire one time within a three-week period. About 127 questionnaires were completed and returned to the researcher. The study found that EFL teachers reported that they strongly agreed that they had challenges associated with developing their teaching contents to suit their online instruction whereas they just agreed that they had various challenges associated with their students, teachers themselves, their motivation, and technological infrastructure during their online instruction. Furthermore, their demographic characteristics comprising their age, number of years of teaching experience, school status (private versus public), school location (city/urban versus rural), qualification level (bachelor's degree versus master's degree), and monthly income level had been found to significantly influence on their online teaching challenges. The findings of this current study had various implications for policy and practices for advancing digital education within EFL and general education contexts in Cambodia. The study concluded with recommendations for future research directions.

Introduction

The introduction of the English language in Cambodia's workforce can be traced back to three main phases (Tao, 2014). The first phase was related to the arrival of a number of international agencies in Cambodia. In the late 1980s, these international agencies arrived in Cambodia to provide aid to help Cambodia integrate its economic and political transition when the Royal Government of Cambodia moved towards democracy and opened its doors to the free market (Clayton, 2006). Large NGOs like the United Nations Children's Fund (UNICEF) and the International Red Cross (IRC) assisted Cambodia in rebuilding 6,000 educational institutions and trained thousands of teachers since the 1990s (Dunnett, 1993). Other two large donors were the World Bank (WB) and the Asian Development Bank (ADB) which had a combined basic education portfolio of nearly US\$ 73 million for the period of 2005-2010 (Pheng et al., 2001). As most of these international agencies used English as a main medium for communication, there was an urgent need for Cambodian people to possess adequate levels of English language proficiency to be actively and fully involved with the donors' aid-related activities (Clayton, 2006). The second phase was associated with the establishment of the United Nations Transitional Authority in Cambodia (UNTAC). UNTAC was formed to ensure future stability in facilitating Cambodia for its upcoming 1993 election as soon as the Royal Government of Cambodia (RGC)

signed the Paris Peace Accord in 1991 (Clayton, 2006). The UNTAC included 20, 000 personnel spreading across the country when they arrived in Cambodia in 1992. As the majority of the UNTAC personnel employed English as their main medium for communication, there was an increased demand for Cambodian people to acquire a sufficient level of English language proficiency (Neau, 2003; Clayton, 2008; Howes and Ford, 2011; Tao, 2014). The last phase was related to the integration of Cambodia into the Association of Southeast Asian Nations (ASEAN), in which the need for being proficient in English in Cambodian society became more demanding given the fact that the use of English had been mandated in article 34 as the only working language of communication by all ASEAN members (Clayton, 2006; Association of Southeast Asian Nations, 2007). Moreover, the use of English had been promoted as "an internal business language at the work place" which was one of ASEAN's plans for integrating its regional community in 2015 (ASEAN Secretariat, 2009, p. 3). Thus, in order to fully cooperate and actively involved with the ASEAN community, there was a societal need for Cambodian people to be proficient in English language communication.

Given the increased need for being proficient in the English language in Cambodian society, English was officially permitted to be taught in Cambodian secondary schools for five hours per week from grade 7 onwards in 1989 (Neau, 2003; Clayton, 2006; Tao, 2014). The newly established English subject, nevertheless, encountered

some challenges due to the lack of teaching and learning resources as well as the shortage of teachers of English language to teach this new language in all Cambodian secondary schools (Neau, 2003; Clayton, 2006; Tao, 2014). To facilitate the implementation of this English language policy in Cambodia, an Australian non-government organization, namely Quaker Service Australia (QSA) funded by the Australian government, set up the Cambodian English Language Training Programme to provide training to both Cambodian government staff and English language teachers in secondary schools. The QSA project was conducted within three key phases: 1985-1988, 1988-1991, and 1991-1993 (Neau, 2003; Clayton, 2006; Tao, 2014). Due to the demands for English Language Training in Cambodia, the Bachelor of Education in Teaching English as a Foreign Language (TEFL) program was set up at the University of Phnom Penh in 1985 (Suos, 1996). In alignment with the Australian government's Cambodian secondary school English language teaching project, the British government sponsored the Cambodian-British Centre for Teacher Education and the Cambodian Secondary English Language Teaching project (CAMSET) from 1992 to 1997 to kick-start their English language programs with the aim of training Cambodian teachers of English as a foreign language (EFL) for secondary schools (Kao and Som, 1996). Eventually, these trained EFL teachers were also provided with opportunities to teach at the university level given the fact that there was a lack of English language teachers within the tertiary setting (Suos, 1996; Tao, 2014).

As a result of these initiatives implemented by the Australian and British governments, since the early 1990s all Cambodian secondary school students as well as most tertiary students were provided with opportunities to study English as a Foreign Language (EFL). Subsequently, the Cambodian Ministry of Education announced that the English language was allowed to be taught in primary schools, starting from grade four onwards, and this English language program began in late 2013 (Kuch, 2013). Given its popularity, some public and private universities have established a bachelor's degree in teaching English as a Foreign Language (TEFL) and a master's degree in Teaching English to Speakers of Other Languages (TESOL) to continually train more EFL teachers for both general school and tertiary settings. Moreover, given most of the teaching and learning resources across all disciplines in Cambodia were written in English, the majority of universities that offered bachelor, master and doctorate degrees in fields other than TEFL/TESOL also required their students to take English language courses in addition to their major courses (Tao, 2014). Thus, acquiring a sufficient level of English language proficiency had been seen as critical for Cambodian people to enable them to fully participate and actively engage in everyday activities in their society, higher education studies, employment and also within the ASEAN community (Tao, 2014).

Because of the widespread Covid-19 pandemic in many countries, including Cambodia, education has been threatened in all schools and higher education institutions (HEIs) urgently shifted from physical teaching and learning in the classroom settings to online teaching and learning modes as an alternative platform to continue the educational process when all classrooms were closed (Chet et al., 2022). In response to the widespread Covid-19, the Ministry of Education, Youth, and Sport (MoEYS) announced the closure of all schools and HEIs on 16 March 2020 and quickly shifted to online teaching and learning platforms. The shortages of infrastructure and learning resources such as curriculum and educational content in digital forms have been reported as the main challenges due to the abrupt closing of all schools and HEIs in Cambodia (Chet et al., 2022; Tao, 2024). To ensure the quality of online teaching and learning during the Covid-19 pandemic, MoEYS and the Education Sector Working Group (ESWG) decided to utilize a comprehensive and coordinated assessment in the education sector. MoEYS established a Cambodia Education Response Plan (CERP) to Covid-19 Pandemic to ensure effective implementation of the Educational Strategic Plan 2019-2023 and responded to the educational crisis in July 2020. The Educational Strategic Plan 2019-2023 articulated coherent and informed plans for the education system's development in Cambodia. These policies were supported by strong and effective leadership from MoEYS (Tao and Kao, 2024). The CERP covered four main objectives (1) staff and students could continue online teaching and learning safely, (2) students and educational staff could return to educational institutions safely, (3) staff and students could teach and learn in an adaptive learning environment, and (4) the national and sub-national levels of MoEYS had increased resilience (MoEYS, 2020; Tao, 2024). Similar to general education, EFL teaching and learning immediately shifted to online teaching and learning platforms during the COVID-19 pandemic. However, there needs to be more research examining the challenges encountered by Cambodian EFL teachers in their online instruction during COVID-19 times (Khan et al., 2021). Of the limited research undertaken in Cambodia, it predominantly emphasized issues related to the development of English language teaching policies and/or status (Neau, 2003; Clayton, 2006, 2008; Moore and Bounchan, 2010), learning and/ or teaching strategies (Bounchan, 2013), and classroom assessment practices and assessment literacy (Tao, 2014). As such, there was a pressing need to undertake a study examining Cambodian EFL teachers' challenges of their online instruction during Covid-19 times in order to fill in the research gap in this area. Such a study would provide meaningful insights into online teaching and learning platforms and would offer implications for policy and practices to transform traditional physical EFL teaching and learning into blended teaching and learning platforms in the post-Covid-19 outbreak. It had been asserted that digital education was not going anywhere after its acceleration during the Covid-19 pandemic due to the fact that it was a major priority area for future educational development in Cambodia (UNESCO, 2020). Digital education has high connections with Cambodia's ambitions for a digital economy and its goal on attaining an upper middle-income status by 2030 and a high-income status by 2050 (RGC, 2021).

This study aimed to explore EFL teachers' challenges of their online teaching during Covid-19 times in Cambodia. The study also examined the influence of their demographic characteristics on their online teaching challenges. Their demographic characteristics comprised their age, number of years of teaching experience, school status, school location, qualification level, and monthly income level.

Conceptualizing online teaching and learning challenges at both general and EFL contexts

Many teachers worldwide have utilized digital and technological resources to enhance their teaching effectiveness as well as to support their students' learning needs and improve their learning achievements through the availability of the internet (Abuhammad, 2020). Nevertheless, studies have shown that teachers within general education have encountered various challenges due to their insufficient preparedness to integrate technologies in their instruction. Such challenges comprised teachers having difficulties in preparing their lessons, difficulties in using digital tools, students' cheating in their assessment tasks, classroom management-related issues, poor quality of instruction and learning, communication barriers between teachers and students and/or among students, and teachers' resistance to embracing digital tools in their instruction (Abuhammad, 2020). Similarly, within the EFL context, research had revealed a number of challenges including teachers having low digital literacy levels, difficulties of digital accessibility, lack of meaningful interactions between teachers and students and/or among students, and lack of assessment authenticity related to students' real lives tasks (Aldossari and Altalhab, 2022). Various strategies comprising instructional adaptation and student support had been recommended to deal with these challenges (Bachiri and Sahli, 2020; Marco and Daniel, 2021).

During the Covid-19 pandemic, education in many countries around the world has been transitioned from physical classes to online teaching and learning modes in order to prevent the fast spreading of Covid-19 within

and/or among the countries (Abuhammad, 2020). Such an abrupt change has led to many teachers not being wellprepared in their online instruction. They, therefore, had difficulties in managing student attendance, implementing classroom activities and assessments, and having more workloads and burdens (Rannastu-Avalos and Siiman, 2020). Moreover, teachers had challenges in involving their students in the learning process actively due to the fact that students were not in the same physical space as their teachers or their classmates. Teachers also had challenges in creating meaningful interactions between teachers and students and/or among students, keeping students motivated in their learning, as well as setting up a more conducive atmosphere for enhancing their student learning (Luan et al., 2023). Teachers reported that they had a lot of difficulties in implementing their instructional pedagogies such as group discussions and hands-on activities during their online instruction due to the fact that they were unable to meet together physically in classes. As such, there was a pressing need for them to modify their teaching techniques/pedagogies and adapt instructional materials to suit the requirements of digital education (Rannastu-Avalos and Siiman, 2020).

To examine the main challenges/difficulties that teachers encounter during their online instruction, a number of studies have been conducted in many countries around the world including Morocco, India, and Taiwan. These studies provided vital findings in order to shed further light on online teaching-related issues. For example, Mouaziz and El Biadi (2021) examined high school teachers' satisfaction levels and the factors influencing their online teaching experiences in Morocco. The study found that most teachers had faced various challenges comprising student disinterest and communication issues and their students' low attendance rates, making them feel discouraged from their online instruction. Kulal and Nayak (2020) also explored teachers' perceptions of online teaching and learning implementation and found that the main obstacle that hindered their online instructional efforts was the lack of sufficient technological training and support provided by their schools.

Similarly, within the EFL context, Kundu and Betal (2022) conducted a study to explore the advantages and disadvantages of EFL online teaching and learning in India. They found that the main issue was related to hardware limitations. These limitations included electricity stability, network fluidity, computer problems, and teachers' unfamiliarity with their online instructional platforms. Chen (2024) further examined the readiness and perceptions of 215 EFL secondary school teachers regarding their online teaching during the Covid-19 pandemic in Taiwan using both the survey and follow-up interviews. The study found that EFL teachers indicated their readiness for online instruction. They showed their

confidence in their abilities to implement their online instruction whereas they mentioned the necessity for having technological training and institution support to deal with the demands of digital education effectively and efficiently. They also reported that they preferred physical classes despite they valuing the benefits of online teaching platforms. They further revealed a number of challenges that they had encountered during their online instruction including students having difficulties in self-management and maintaining focus, various factors contributing to their student's insufficient learning outcomes, unstable internet connections, and a lack of the teachers' tangible presence during the online teaching and learning modes.

Various studies have also been conducted in Cambodia to explore the key challenges encountered by teachers and students in their online instruction and learning during the COVID-19 pandemic. For instance, Chea et al. (2022) surveyed 687 teachers at 43 secondary schools in 10 Cambodian provinces and conducted follow-up interviews with some participants to examine their readiness for online instruction during the COVID-19 pandemic. The study indicated that many teachers lacked proper training and preparation to effectively transition from physical classes to online teaching platforms. In addition to the lack of training and preparedness, teachers faced various challenges including a lack of digital devices and support from students' parents in integrating technology into their online classrooms. Factors that influenced teacher readiness for their online instruction comprised their gender, age, teaching experience, school locations, and perceived challenges and perceived effectiveness of their online instruction. Teachers in the city had been found to be more prepared for online classrooms, while teachers in rural areas were less ready to embrace technology in their instruction.

Tao (2024) also surveyed 127 students to explore their evaluation of their master-level online courses in a large public teaching university located in Phnom Penh city. This study examined students' evaluation of their master-level online courses, their instructors' teaching performances, the learning materials and resources, and the online learning platforms. The study found that students experienced various main challenges associated with online learning comprising technological issues like the internet connection and learning platforms, as well as limited online course library resources, lack of full interactions and engagement among students and between students and their instructors, and lack of physical contact during their class time.

Within the EFL context, Khan et al. (2021) examined the experiences of both EFL instructors and students in integrating blended learning (BL) into the teaching of an academic writing course at the Royal University of Phnom Penh (RUPP) using a qualitative approach. The

study found that both instructors and students showed positive attitudes toward BL as it helped students become more engaged and autonomous and learn online and from one another in a more collaborative way. The researchers, however, reported that there was a key challenge associated with the technological infrastructure of the university that had not been well-equipped with a level that could support the seamless integration of BL. The researchers further reported that the university's resource limitations comprising slow-speed Wi-Fi, old devices, and the lack of availability of necessary equipment for optimal use of a learning management system such as *Schoology* had resulted in students' negative learning experiences.

Chhom (2023) further surveyed 255 Cambodian EFL university students to examine the students' attitudes towards their online English learning during Covid-19 times in Cambodia. The study found that students had more positive attitudes towards their online English learning and their attitudes towards effectiveness, autonomy, open-mindedness, and interaction of online English learning were high whereas their attitudes in terms of anxiety of online English learning were at the medium level. The researcher concluded that the students' unintentional online learning could have been due to their teachers being unfamiliar with the utilization of technological tools and teaching techniques/ pedagogies to conduct their online instruction delivery more effectively and satisfactorily as well as their schools had not prepared their curricula that suited the digital learning environment.

Lian et al. (2023) also shared their team's reflections on a project that involved the use of Computer-assisted language learning (CALL) based systems with preservice secondary teachers of English in Cambodia in an online environment. The researchers reported that new learning experiences should have been integrated into a face-to-face context where pre-service teachers had direct access to the trainers and assisted each other in obtaining confidence in the utilization of new information and communication technology (ICT) systems. The researchers further revealed that there were internet issues that interfered with pre-service teachers' teamwork, preventing the trainers from showing the pre-service teachers the benefits of employing ICT resources included on the project website but not directly employed by the project.

Doeur (2021) reviewed the literature regarding the roles of digital technology in English major programs in Cambodia and found that the EFL programs employed Quizlet, Facebook, Telegram, and Flipgrid, among others, as the main digital tools for their instruction. The researcher revealed that there were a number of challenges that EFL teachers had encountered comprising no specific guidelines on the use of digital technology

to help teachers conduct it, classroom facilities not well equipped for integrating technology into teaching and learning, teachers' lack of training or motivation, and administrative issues including teachers and learners could not remember their passwords to access the digital platforms, making it difficult to continue with digital classrooms (Doeur, 2021).

Study Area and Research Methodology

This study was designed to explore EFL teachers' perceptions towards challenges of their online teaching using one main tool comprising the questionnaire. The questionnaire consisted of 32 questions using Likert scales and six open-ended items. The 32 questions with Likert scales comprised six constructs including Students, Institution Support, Teachers, Teaching Content, Motivation, and Technological Infrastructure. The questionnaire was collected anonymously for a duration of three weeks. The study employed a purposive sampling for selecting 160 teachers who were teaching in four private schools and three public schools. The criteria for choosing these schools were mainly related to their locations (city/urban versus rural area) and their current status (i.e., public versus private), while the main criteria for selecting participants included their gender, and number of years of teaching experiences. These teachers were asked to complete the structured questionnaire one time within a three-week period. Consent was obtained through the online survey platform- participants were required to answer whether they approved of taking part in the questionnaire prior to proceeding to the first set of questions. One hundred and twenty-seven questionnaires were completed and returned to the researcher, resulting in a response rate of 79.0%. There were 74 males and 53 females. Their ages range from 20 to 45 years.

The structured questionnaire had been adapted from Siddiquei and Kathpal's (2021) study. The values of Cronbach's alpha examined for the current study for the six constructs (Students, Institution Support, Teachers, Teaching Content, Motivation, and Technological Infrastructure) were 0.60, 0.92, 0.76, 0.81, 0.78, and 0.76 respectively, indicating acceptable reliability of the tool. The validity of the questionnaire was further examined in the current study through a consultative meeting with five potential teaching staff working in one large public university in which the researcher worked. The questionnaire had three main parts. The first part comprised the participants' demographic information. The second part covered the teachers' perceptions of online teaching challenges comprising students, institution support, teachers themselves, teaching content, motivation, and technological infrastructure constructs. Part two employed a five-point rating scale of "strongly disagree" to "strongly agree." The last part covered six open-ended items related to online teaching challenges associated with students, institution support, teachers themselves, teaching content, motivation, and technological infrastructure. IBM SPSS version 27 was utilized to analyze the quantitative data, focusing on descriptive statistics, including percentage and mean scores, as well as inferential statistics comprising correlations, T-tests, and One-way ANOVA tests. A series of independent T-tests were conducted to examine whether the gender of EFL teachers, their school status (i.e., public versus private), their school location (i.e., city/urban versus rural area), and their qualification level (i.e., Bachelor's degree versus Master's degree) influenced each of the six constructs of online teaching challenges. A series of One-way ANOVA tests were conducted to further examine the association of EFL teachers' age, their number of teaching experiences, and their monthly income with each of the six online teaching challenges constructs. The qualitative data (i.e., open-ended responses obtained from the survey) was analyzed using descriptive and narrative approaches by dividing them into six main themes comprising aspects of students, institution support, teachers themselves, teaching content, motivation, and technological infrastructure in relation to online teaching challenges.

Results and Findings

EFL Teachers' Demographic Information

Approximately 60% of these respondents taught mainly through online mode, while 40% taught both online and in-person through a blended teaching mode during the COVID-19 pandemic. Fifty percent of them used a synchronous approach whereas 11% employed an asynchronous approach and 39% used both approaches for their online instruction. The synchronous approach had been referred to as the method in which students were required to virtually attend class sessions each week at the same time as their teachers and classmates. In contrast, the asynchronous approach had been referred to as the method in which students could learn on their schedules within a certain timeframe and they could access and complete readings, homework and other learning materials at any time by themselves. For their future teaching mode, about 65% of them preferred using a blended teaching approach while 35% of them preferred a physical class teaching approach. About 61% of them were private school EFL teachers, whereas 39% were public school EFL teachers. For their school location, 84% of them had their schools located in the city/urban area, while 16% had their schools located in the rural area. In relation to their teaching experience, 50% of them had less than 6 years of teaching experience, 34% had between 6 and 10 years of teaching experience, and 16% had between 11 and 25 years of teaching experience. About 2% of them had a monthly salary of less than 150

Table 1: EFL teachers' demographic information

EFL teachers' demographic information	Subcategory	Frequency	Percentage (%)
Teaching mode during COVID-19	Online	76	60
	Blended (Online & In-Person)	51	40
Online instruction approach	Synchronous	63	50
	Asynchronous	14	11
	Both Synchronous & Asynchronous	50	39
Future preferred teaching mode	Blended	82	65
	Physical Class	45	35
Teacher type	Private School EFL Teacher	78	61
	Public School EFL Teacher	49	39
	City/Urban	106	84
School location	Rural	21	16
Teaching experience (Years)	Less than 6	63	50
	6-10	43	34
	11-25	21	16
Monthly salary (USD)	Less than 150	3	2
	150-300	10	8
	301-450	47	37
	More than 450	67	53
Qualification level	Bachelor's Degree	64	50
	Master's Degree	63	50

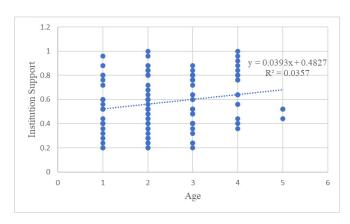
\$, 8% had between 150 \$ and 300 \$, 37% had between 301 \$ and 450 \$, and 53% had more than 450 \$. For their qualification level, 50% of them had a bachelor's degree, whereas 50% had a master's degree as shown in Table 1.

To examine the relationships of the online teaching challenges constructs with the EFL teachers' age (measured in years) and their teaching experience (measured in years), Pearson product-moment correlations were computed by using SPSS. The results of these analyses are displayed in Figures 1, 2, 3, and 4.

The correlations presented in Figure 1 displayed that there was a significant and weak relationship between institution support and EFL teachers' age (r= 0.19, p < .05), indicating that the older the EFL teachers were, the more institution support provided by their schools.

The correlations presented in Figure 2 also showed that there were significant and strong relationships between teachers' age and their teaching experience (r = 0.64, p < .01), indicating that the older the EFL teachers were, the greater number of years of teaching experience they had taught at their schools.

The correlations presented in Figure 3 revealed that there were significant and weak relationships between students and teachers' teaching experience (r= 0.29, p < .01), suggesting that the more years of EFL teachers'

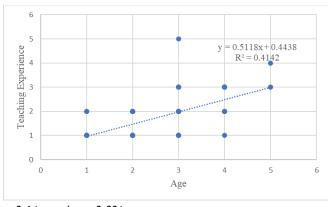


r = 0.19, p - value = 0.033

Figure 1: The relationships between age and institution support

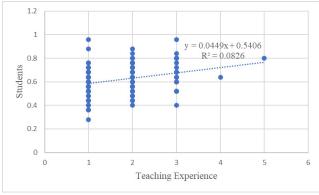
teaching experience were, the more positive relation they had with their students.

The correlations presented in Figure 4 further showed that there were significant and weak relationships between institution support and teachers' teaching experience (r= 0.22, p < .05), indicating that the more years of EFL teachers' teaching experience were, the



r= 0.64, p-value = 0.001

Figure 2: The relationships between age and teaching experience



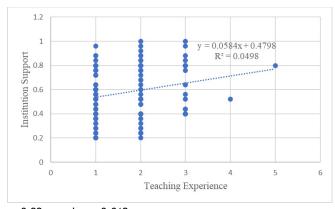
r= 0.29, p-value = 0.001

Figure 3: The relationships between teaching experience and students

more support they received from their schools during their online instruction.

To examine whether the gender of EFL teachers influenced each of the six constructs of online teaching challenges, a series of independent t-tests were conducted. Prior to performing t-tests, Levene's tests for Equality of Variance were computed to test the homogeneity of variance among the six constructs. Levene's tests were not significant for all constructs, suggesting that the homogeneity assumption for these constructs had been met. Hence, equal variance t-tests were undertaken to determine whether the gender of EFL teachers impacted each of the six online teaching challenges constructs. As can be seen from Table A-1 (Appendix), there were no significant differences between males and females in relation to each of the six constructs of online teaching challenges. This result indicates that there was no evidence that gender was related to the six constructs of online teaching challenges. Hence, EFL teachers' gender had no impact on the six main challenges of their online instruction.

Table A-2 (Appendix) showed two significant findings.



r= 0.22, p-value = 0.012

Figure 4: The relationships between teaching experience and institution support

First, the independent two-tailed T-test revealed a significant difference for the students variable (t(125)= 3.771, p = 0.001), with EFL private school teachers having significantly higher average scores than EFL public school teachers. This indicated that EFL private school teachers experienced lower levels of online teaching challenges related to their students than their EFL public school counterparts. Second, the results shown in Table A-2 revealed that the two groups of EFL teachers had significantly different average scores for the institution support construct (t(125) = 4.447, p = 0.001), with the EFL private school teachers demonstrating a higher institution support level than their EFL public school counterparts. In summary, EFL teachers who taught at private schools appeared to encounter less online teaching challenges than their EFL public school counterparts. They also tended to receive more support (i.e., technological, content, and facility support) from their schools during

Table 2: EFL teacher challenges of their online instruction associated with their students

Attributes		
	WAI	OA
My students are ready to learn online	0.59	N
My students have technical skills to learn online	0.62	Α
My students do not have network and speed issues	0.58	N
My students do not hide identity in online learning	0.67	Α
My students are interactive and participate in my class	0.62	Α
Overall	0.62	Α

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20,

disagree (D) = 0.21- 0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

their online instruction than their EFL public school counterparts.

Table A-3 (Appendix) showed four significant findings. First, the independent two-tailed T-test revealed a significant difference for the student's construct (t(125)= 2.599, p = 0.010), with EFL teachers teaching in the city/urban areas having significantly higher average scores than EFL teachers teaching in the rural area. This indicated that EFL teachers teaching in the city/urban areas experienced lower levels of challenges related to their students than their EFL counterparts teaching in the rural areas. Secondly, the EFL teachers teaching in the rural area had significantly lower mean scores for the teachers construct than EFL teachers teaching in the city/ urban areas (t(125) = 2.109, p = 0.037), suggesting that EFL teachers teaching in the rural area had more challenges of their online instruction than their EFL counterparts teaching in the city/urban area. Third, the results shown in Table A-3 revealed that the two groups of EFL teachers had significantly different average scores for the teaching content construct (t(125) = 3.660, p = 0.001), with the EFL teachers teaching in the city/urban area demonstrating producing a higher teaching content level than their EFL counterparts teaching in the rural area. Fourthly, the EFL teachers teaching in the rural area had significantly lower mean scores for the motivation construct than EFL teachers teaching in the city/urban areas (t(125)= 2.034, p = 0.044), suggesting that EFL teachers teaching in the rural area had less motivation support of their online instruction than their EFL counterparts teaching in the city/urban area. In summary, EFL teachers whose schools are located in the city/urban had less online teaching challenges than their EFL counterparts whose schools are located in rural areas. They also had higher motivation and higher capacity to create content for their online instruction than their EFL counterparts teaching in rural areas.

Table A-4 (Appendix) showed one significant finding. The independent two-tailed T-test revealed a significant difference for the teachers construct (t(125)= - 3.315, p = 0.001), with EFL teachers having a master's degree having significantly higher average scores than EFL teachers having a bachelor's degree. This indicated that EFL teachers having a master's degree experienced less challenges in their online instruction than their EFL counterparts having a bachelor's degree. In summary, EFL teachers with a master's degree tended to encounter less online teaching challenges than their EFL counterparts with a bachelor's degree.

To further examine the association of EFL teachers' age with each of the six online teaching challenges constructs, a series of one-way ANOVA tests were conducted. As can be seen from Table A-5 (Appendix), there were no significant differences among the age groups of EFL teachers in relation to each of the six

constructs of online teaching challenges. This result indicates that there was no evidence that age was related to the six constructs of online teaching challenges. Hence, EFL teachers' age had no impact on the six main challenges of their online instruction.

As can be seen from Table A-6 (Appendix), there was one significant difference amongst these groups on student construct (F(2,126)= 2.898, p = 0.025). This result indicated that EFL teachers with more years of teaching experience had lower challenge levels related to their students than their counterparts with less number of years of teaching experience during their online instruction. Hence, EFL teachers with a greater number of years of teaching experience encountered less challenges associated with their students during their online instruction than their counterparts with little teaching experience.

Table A-7 (Appendix) shows that there were four significant differences among the monthly income groups of EFL teachers in relation to each of the six constructs of their online teaching challenges. First, there was a significant difference amongst these groups on student construct (F(3,126) = 4.666, p = 0.004). This result indicated that EFL teachers with a higher monthly income had lower challenge levels related to their students than their counterparts with less monthly income for their online instruction. Second, there was a significant difference amongst these groups on the institution support construct (F(3,126) = 6.855, p = 0.001). This result indicated that EFL teachers with higher monthly income had higher institution support related to their online instruction than their counterparts with less monthly income. Third, there was a significant difference among these groups on teaching content construct (F(3,126)=3.218, p = 0.025). This result indicated that EFL teachers with a higher monthly income had produced a higher level of teaching content for their online instruction than their counterparts with less monthly income. Fourthly, there was a significant difference amongst these groups on motivation construct (F(3,126) = 5.820, p = 0.001). This result indicated that EFL teachers with higher monthly income had higher motivation levels than their counterparts with less monthly income in their online classes. In summary, EFL teachers with higher monthly income experienced less online teaching challenges, received higher support from their schools, had greater motivation levels, and had a higher capacity to create teaching content than their counterparts with less monthly income.

EFL Teacher Online Teaching Challenges

Overall, Table 2 shows the participants' challenges related to their students during their online teaching. The participants agreed that their students had the technical skills to learn online and they were interactive

and participated in their class activities as well and they did not hide their identity in their online classes. However, the participants neither agreed nor disagreed that their students were ready to learn online and did not have network and speed issues with their internet during their online classes.

The qualitative data also revealed that there were several challenges related to students during EFL teachers' online instruction. These challenges included slow internet connection, using old devices (mobiles/laptops), cheating during tests/exams, demotivation, lack of student class participation, students misunderstanding each other, distractions at home like noises, and could not to keep learning materials in a proper place. For example, four students described,

Students are having internet connection problems and using old devices which can affect the process of their online learning. (Pers. Comm. P1)

...Students are always having internet connection issues...They felt demotivated to talk to teachers or classmates because they are afraid of making mistakes or being judged, so they do not dare to ask even though they are doubted...There are also distractions at their homes like noises...They find it hard to keep their learning materials in a proper place because everything is online, and they don't have skills to save and store them safely. (Pers. Comm. P2)

...Students have challenges with technological devices, internet connection, technology usage, unstable internet connection, lack of motivation and class participation, and misunderstanding each other. (Pers. Comm. P3)

...Students have no experience with online learning. They even do not have enough devices to learn this way. And the internet connection is also a problem... Lack of digital literacy is the most challenging for them. Some of them can cheat in their exams during their online classes. (Pers. Comm. P4)

Table 3 shows that the respondents agreed that their schools provided them with sufficient professional training and technical and multimedia support for their online instruction. Nevertheless, they were neutral that their schools had a dedicated team for troubleshooting and organized online counseling sessions for them as well as providing enough training to their students to enable effective implementation of online classes.

The qualitative data also showed that there were various challenges associated with institution support during EFL teachers' online teaching. These challenges comprised no counseling and technology support teams provided to teachers as well as it was a new teaching experience in relation to online instruction. To address such challenges, their schools provided them with professional development workshops related to online instruction and pedagogies. For instance, three teachers reported,

There aren't any technology support teams available

Table 3: EFL teacher challenges of their online instruction associated with their institution support

Attributes		
	WAI	OA
My institution has given me adequate professional training for online teaching	0.75	A
My institution has provided adequate training to students for online learning	0.57	N
My Institution provided me technical and multimedia support	0.62	Α
My institution has a dedicated Team for troubleshooting arises in online class	0.58	N
My institution has arranged online counseling sessions for me	0.53	N
Overall	0.61	Α

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20,

disagree (D) = 0.21- 0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment

at my school...It's hard for the school to provide us counseling on how to use technology tools since we can't see each other face. (Pers. Comm. P5)

...School provides online learning platforms to all teachers to equip us with the necessary knowledge and skills after we suggest having training and workshops on online teaching. (Pers. Comm. P6)

...The school takes proactive measures to address the challenges of online teaching. One of the key steps taken by the school is organizing training to help teachers adapt to the new online class teaching platforms. These trainings cover a range of topics including the way in which to use online teaching platforms effectively, strategies for engaging students in virtual learning, and tips for troubleshooting common technical issues. (Pers. Comm. P7)

According to Table 4, overall, all participants agreed that they were interested and felt comfortable teaching online as offline modes and they were well prepared prior to their online instruction as well as had altered their teaching styles to suit their online teaching. In contrast, they neither agreed nor disagreed that they did not experience any communication barriers in their online instruction.

The qualitative data further revealed that EFL teachers had encountered numerous challenges during their online instruction. These challenges included slow network connection caused by the rain and electricity cut-off, old teaching devices (mobiles/laptops), noises caused by family members and neighbors, and teaching pedagogies to suit online instruction. As three participants expressed:

Sometimes the electricity has been cut off and a rainy day

Table 4: EFL teacher challenges of their online instruction associated with teacher themselves

Attributes		
Attributes	WAI	OA
I am as comfortable teaching online as offline	0.65	A
I do have not any communication barriers in teaching online	0.59	N
I am interested in online teaching	0.69	Α
I am well prepared before taking online class	0.78	Α
I have changed my teaching style for online teaching	0.80	A
Overall	0.70	Α

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.64+0.80, strongly agree (SA) = 0.84+0.00, or constraints

disagree (D) = 0.21- 0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

can also cause internet connection problems. Students' interaction is a struggle since most of them hardly ever respond to the teacher's questions spontaneously. (Pers. Comm. P8)

...The challenges that I encounter as a teacher during my online teaching are devices, internet connection and quiet places. I have trouble with my laptop, so I can't install new apps because it is quite old and doesn't support that program, I should buy new ones, but it wastes my money. The internet connection is also really important as well... Some students who live far away from the city have problems with their internet connection. Moreover, my house is quite noisy because my dad runs a blacksmith business, so it is often disturbing, I can't go outside because everyplace has been closed. Furthermore, my neighbors also listen to music and sing karaoke loudly. (Pers. Comm. P9)

...One of the most daunting challenges I encounter while teaching online during the pandemic is the struggle to provide adequate examples and employing various teaching strategies. The shift to virtual classrooms means that I have to rethink of my approach entirely, considering the diverse group of students behind those screens of smartphones, iPads, and laptops. It requires a significant amount of time and effort to prepare engaging and effective lessons that can resonate with each student. (Pers. Comm. P10)

Table 5 displays that all respondents strongly agreed that they had developed new online teaching materials, had utilized multimedia tools (Videos, PowerPoint slides), and had provided their students with regular assignments as well as had checked these given assignments regularly. However, they just agreed that they provided their students with worksheets and reading materials through Telegram chats and took regular feedback from their

Table 5: EFL teacher challenges of their online instruction associated with their teaching content

Attributes		
Attributes	WAI	OA
I have developed new material for online teaching	0.85	SA
I am using multimedia tools (Videos, PowerPoint slides) for online teaching	0.86	SA
I am giving regular assignments to students	0.83	SA
I am checking assignments regularly given to students	0.81	SA
I am taking regular feedback from students of online teaching	0.73	Α
I am providing worksheets and reading materials to students through Telegram chats	0.76	Α
Overall	0.81	SA

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

students during their online instruction.

The qualitative data also showed that there were numerous challenges associated with teaching content during EFL teachers' online teaching. These challenges included the time-consuming to convert hard copies of teaching materials into online materials and designing new teaching materials to suit online instruction, student cheating during tests/exams, and spending much time making tests/exams and providing feedback to students. Three participants stated,

During my online teaching, I have to convert almost all of the teaching materials into the online materials so that students can do exercises through online platforms. In addition, one of the most challenging things is assessing the students' learning achievements. Because students are taking the tests virtually, it is hard to ensure that they don't cheat. (Pers. Comm. P11)

...Materials are not in the right format for online teaching, so I have to convert them to online materials or design my own materials via Liveworksheet, Bookwidgets, and Google Form...Students can easily cheat during quizzes and tests...Some students do not take feedback seriously as they don't worry about failing the tests as they can cheat. (Pers. Comm. P12)

...I find it time-consuming to design my online teaching materials, exercises, quizzes, and tests, and they have to be done on time...I need to spend time learning to use the online teaching software creatively and effectively... The multimedia tools are hard to use as they are new to me. It is hard to manage my class during exams and I spend more time marking tests and giving feedback to

students. (Pers. Comm. P1)

According to Table 6, overall, the respondents strongly agreed that they received their teaching salary on time. Nevertheless, they just agreed that they got mental and emotional support from their colleagues and their school administrators as well as had a sense of job security during their online instruction.

The qualitative data further revealed that EFL teachers had received enormous motivational support from friends, family, colleagues, and their school administrators to deal with the challenges of their online instruction. As two respondents expressed:

My family members support me because they understand me during my online teaching. They do not make loudly noises...I have a friend who has a master's degree in using Ed-tech in teaching. He usually supports me along the way and I always feel it is important to train a lot of teachers in the same school where I teach. (Pers. Comm. P7)

...I am grateful for the understanding and support I receive from my family, colleagues, and school heads. When it comes to teaching from home, having a quiet space is essential. My family members have always been very supportive about this need. They make sure to minimize their noise levels during my classes to ensure that my students are not being disturbed. This support from my family creates a conducive environment for effective teaching. In addition to my family's support, I am fortunate to have colleagues and school heads who are also very supportive of my online teaching endeavours. They go above and beyond to ensure that everything is in order for me. These include checking weekly lesson plans, providing daily updates on teaching strategies, and even reviewing pictures related to teaching and learning activities. Their support and guidance play a crucial role in helping me deliver a quality education to my students in online platforms. (Pers. Comm. P2)

Table 6: EFL teacher challenges of their online instruction associated with their motivation

Attributes		
Attributes	WAI	OA
I am getting my salary on time	0.83	SA
I am having a sense of job security	0.77	Α
I am getting family support	0.69	Α
I am getting mental and emotional support from colleagues	0.69	Α
I am getting mental and emotional support from higher authorities	0.64	A
Overall	0.72	Α

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20,

disagree (D) = 0.21- 0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

Table 7 shows that all participants agreed that they had stable network connection, had adequate speed for network connection, had suitable devices (mobiles/laptops) for their online instruction, and had easy video conferencing software (Zoom, Google Meet, Google Classroom, Facebook Messenger, Facebook Live) for their online teaching. In contrast, they were neutral that they had utilized Facebook Messenger and Telegram for the live sessions with their students.

The qualitative data also showed that there are a number of challenges faced by EFL teachers during their online instruction in relation to technological infrastructure. These challenges included unstable internet connection, the internet connection was cut off when the weather was bad or electricity was cut off, unfamiliar with digital teaching tools like Google Classroom, Zoom, and Microsoft Teams, some features on Google Meet were lacking for their teaching needs, Zoom's free version only offered limited meeting durations, spending own money to purchase some digital teaching tools and phone internet data, and lack of effective communication. Five participants pointed out,

The internet connections for both myself and the students are unstable, making extra difficult to work. All the platforms and applications used during the teaching have to be paid with my own income, costing me a fortune to be able to teach online properly. (Pers. Comm. P2)

...The only problem that I encounter the most during my

Table 7: EFL teacher challenges of their online instruction associated with technological infrastructure

Attuitutas		
Attributes	WAI	OA
My network connection is stable	0.68	Α
My network connection is having adequate speed	0.67	A
My device (mobile/laptop) are suitable for online teaching	0.79	A
My video conferencing software (Zoom, Google meet, Google classroom, Facebook messenger, Facebook live) is easy to use	0.80	Α
My video conferencing software (Zoom, Google meet, Google classroom, Facebook messenger, Facebook live) are having adequate tools for online teaching	0.77	Α
My Facebook Messenger and Telegram are being used for live sessions with students	0.60	N
Overall	0.72	Α

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A)

= 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

online teaching is the power cut off. My students and I occasionally receive a power cut off which results in the loss of internet connection that delay my lesson delivery... the internet connection had cut off when there is a bad weather or electricity cut off. (Pers. Comm. P11)

...Unstable internet connection is my most annoyed problem. It is frequently slow or sometimes my devices are too hot to be used longer. Additionally, I spend lots of my phone internet data for online teaching. (Pers. Comm. P6)

...I have encountered various challenges when it comes to utilizing video conferencing platforms for my classes. While some features on Google Meet are lacking for my teaching needs, Zoom's free version only offers limited meeting durations, prompting me to consider investing money in buying premium features. In addition to video conferencing tools, managing communication with students poses another hurdle. Although Messenger and Telegram are commonly used for sending updates, the fact that some of my students have trouble using Messenger makes this problem even worse. They express a preference for platforms like Kakao Talk and WeChat, which add another layer of complexity to maintaining effective communication. (Pers. Comm. P3)

...I am using Google Classroom, Zoom, and Microsoft Teams for my online teaching. At first, it is all new to me, and it takes me almost 6 months to get familiar with the platforms, and feel more comfortable to teach... Supper slow internet connection at rural area, low quality mobile, and unfamiliar with the use of digital tools such as Google Classroom, Zoom, and Microsoft Teams provide me various challenges for online teaching. Furthermore, all these programs need high speed internet connections. (Pers. Comm. P1)

Discussion

All EFL teachers in this study overall reported that they had encountered six main challenges associated with their online instruction during the Covid-19 outbreak. These challenges comprised their students, institution support, teachers themselves, teaching content, motivation, and technological infrastructure. This result supported Siddiquei and Kathpal's (2021) findings in relation to challenges faced by teachers in their online instruction during the Covid-19 pandemic. Moreover, these EFL teachers indicated that they strongly agreed that they experienced various challenges associated with developing the teaching content to suit their online instruction whereas they just agreed that they experienced a number of challenges related to their students, teachers themselves, their motivation, and technological infrastructure of their online instruction. Furthermore, the demographic characteristics of the EFL teachers including their age, number of years of teaching experience, school status (private versus

public), school location (city/urban versus rural), qualification level (bachelor's degree versus master's degree), and monthly income level had been found to have significant influences on the six constructs of online teaching challenges. First, the study revealed that the older the EFL teachers were, the more institution support provided by their schools. Moreover, EFL teachers with more number of years of teaching experience tended to have a good relationship with their students and encountered fewer challenges associated with their students during their online instruction. Their schools provided them with more support including technological and content support to assist them deal with their online teaching challenges. They also tended to have worked at their schools for many years. Second, EFL private school teachers seemed to experience less online teaching challenges than their EFL public school counterparts. Their schools tended to provide them with more support comprising technological, content, and facility support during their online instruction than their EFL public school counterparts. Third, EFL teachers whose schools are located in the city/urban appeared to encounter less online teaching challenges than their EFL counterparts whose schools are located in rural areas. They also tended to have higher motivation and higher capacity in producing content for their online instruction than their EFL counterparts teaching in rural areas. Fourth, EFL teachers having a master's degree seemed to experience less online teaching challenges than their EFL counterparts having bachelor's degrees. Fifth, EFL teachers having higher monthly income appeared to encounter less online teaching challenges, receive higher support from their schools, have greater motivation levels, and have a higher capacity to produce teaching content than their counterparts having less monthly income. These results supported the findings by Chea et al. (2022) that the demographic characteristics of teachers including their age, teaching experience, and school locations had influenced their online instruction.

For the student-related challenges, all EFL teachers agreed that their students had the technical skills to learn online, were interactive in doing tasks, and showed their identity during their online learning. However, they were neutral that their students were ready to learn online and did not have network and speed issues. In alignment with the quantitative data, the qualitative data revealed that the participants attributed various challenges associated with students comprising slow internet connection, using old devices (mobiles/laptops), cheating during tests/exams, demotivation, lack of class participation, misunderstanding each other among students themselves, distractions at their homes like noises, and unable to keep their learning materials in a proper place. This result aligned with the findings of previous research (Tao, 2024; Chea et al., 2022; Lian et al., 2023; Khan et al., 2021; Doeur, 2021) regarding technological issues during the online teaching and learning process. This result also supported the findings by Abuhammad (2020) and Rannastu-Avalos and Siiman (2020) that student cheated in their tests/exams during their online classes.

With regard to the institution support-related challenges, these EFL teachers agreed that their schools provided them with adequate professional training and offered them technical and multimedia support for their online instruction. Inconsistent with the quantitative data, the qualitative data showed that there were various challenges associated with institution support during EFL teacher's online teaching including no counseling and technology support teams provided to teachers as well as it was a new teaching experience in relation to online instruction. To address such challenges, their schools provided them with various professional development workshops related to their online instruction and pedagogies. This result was in consistent with Chen's (2024) findings regarding the crucial support provided by the schools to enable EFL teachers to deal with their online teaching challenges successfully and effectively.

In relation to the teacher themselves related challenges, all EFL teachers agreed that they were interested and well-prepared prior to teaching online, felt comfortable teaching online as offline, and they altered their teaching styles to suit their online instruction. Consistent with the quantitative data, the qualitative data revealed that the respondents had encountered numerous challenges during their online instruction comprising slow network connection caused by the rain and electricity cut off, old teaching devices (mobiles/ laptops), noises caused by their family members and neighbors, and teaching pedagogies to suit online instruction. This result supported the previous research findings (Tao, 2024; Chhom, 2023; Chea et al., 2022) regarding the internet connection, digital teaching tools, and teaching pedagogies of online instruction in

For the teaching content-related challenges, these EFL teachers reported that they strongly agreed that they had developed new teaching materials, employed multimedia tools, gave their students regular assignments, and checked these given assignments regularly. Nevertheless, they just agreed that they took regular feedback from their students and provided them with worksheets and learning materials during their online instruction. In alignment with the quantitative data, the qualitative data showed that there were numerous challenges associated with teaching content during online teaching including time-consuming to convert hard copies of teaching materials into online materials and designing new teaching materials to suit online instruction, student cheating during tests/exams, and spending much time for marking tests/exams and providing feedback to students.

This result supported the findings by Chhom (2023) and Chea et al. (2022) that teacher challenges in their online instruction were associated with developing teaching materials to suit their online classes. This result was also in alignment with Abuhammad's (2020) and Rannastu-Avalos and Siiman's (2020) findings that student cheating during their tests/exams and marking tests/exams were a critical challenge for teachers of their online instruction.

With respect to the motivation-related challenges, these EFL teachers strongly agreed that they received their monthly salary on time. However, they just agreed had they had a sense of job security, got support from their own families, and obtained mental and emotional support from their colleagues and school administrators. The qualitative data further showed that the participants reported that they had received various motivational support from friends, family, colleagues, and their school administrators to deal with the challenges of their online instruction. This result was consistent with the findings by Siddiquei and Kathpal (2021) that salary, job security, family support, and mental and emotional support from colleagues and school administrators were the key motivators for teachers to embrace technology in their instruction despite their experiencing numerous challenges of their online teaching.

In relation to the technological infrastructure-related challenges, it was found that these EFL teachers agreed that their video conferencing software was easy to use and it had adequate tools for online instruction, their device was suitable for online instruction, and their network connection was stable and had adequate speed for their online instruction. Nevertheless, they were neutral that they employed Facebook Messenger and Telegram for live sessions with their students. The qualitative data further revealed that there were a number of challenges encountered by these respondents during their online instruction in relation to technological infrastructure. These challenges comprised unstable internet connection, the internet connection was cut off when the weather was bad or the electricity cut off, unfamiliar with digital teaching tools like Google Classroom, Zoom, and Microsoft Teams, some features on Google Meet were lacking for their teaching needs, Zoom's free version only offered limited meeting durations, spending their own money to purchase some digital teaching tools and phone internet data, and lack of effective communication between teachers and students. These results were consistent with the findings from previous research (Tao, 2024; Chea et al., 2022; Lian et al., 2023; Khan et al., 2021; Doeur, 2021) regarding the challenges associated with technological infrastructure aspects during online instruction.

The findings of the current study had various implications for policy and implementation and practices with respect to EFL online teaching and learning programs in Cambodia.

Digital teaching and learning mode had been explicitly stated in the MoEYS' Education Strategic Plan 2024-2028 and Teacher Policy Action Plan 2024-2030 (MoEYS, 2024, 2023) as a way to enhance access to education for all students, anywhere, anytime in the country. This promotion of digital education can equip students with knowledge and skills in ICT to transition into 21st-century employment. Promoting digital education can also assist Cambodia in achieving its ambitions for a digital economy in 2021-2035 and its goal to become a middle-income country by 2030 and a high-income country by 2050 (RGC, 2021). As such, it was crucial for all EFL school programs in Cambodia to embrace this new teaching and learning mode to advance its further development in order to support the EFL teaching and learning process effectively and efficiently. In relation to the policy regarding online teaching and learning process, the schools should have well-developed technological infrastructure. Such wellequipped technological infrastructure plays a vital role in enabling the successful implementation of full online and/or blended teaching and learning approaches to suit digital EFL education in the future. The limitation of technological infrastructure was an issue that developing countries like Cambodia were experiencing in the early phase of implementing online teaching and learning platforms during the Covid-19 pandemic, as had been found in this current study and previous research. These technological infrastructure-related challenges could have discouraged EFL teachers from accepting online teaching and learning platforms or blended teaching and learning over physical classrooms in the future. Moreover, school administrators should have improved their digital teaching and learning materials and resources as well as their learning platforms to fulfill their EFL teachers' and students' needs. It had also been recommended that the onus of online/blending learning model be placed on continuous professional development so that EFL teachers were well-prepared for their online teaching. Both EFL teachers and students should have been provided with sufficient training with regard to how to utilize the digital teaching and learning tools/platforms prior to starting their teaching and learning each semester in order to increase the effectiveness of online/blending teaching and learning approach practices. The school administrators should have provided EFL teachers with continuous professional development with special emphasis on technological skills to make them become digitally competent and to raise their awareness about the usefulness of embracing technology in EFL education. Digital training and workshops to upgrade the digital knowledge and skills of EFL teachers with new tools and technologies should have been conducted for them regularly as opposed to just a few times off in order to keep them updated with new technologies. Research has shown that professional development workshops are ad hoc, inconsistent in delivery, and not monitored for effectiveness cannot provide teachers with the needed knowledge and skills (Tao et al., 2018). Moreover, EFL Teachers lacking digital knowledge and skills should have been identified immediately and their participation in digital training should have been compulsory. In addition, there should be close cooperation from all relevant school stakeholders comprising students' parents and the community to obtain their full support with regard to embracing technology in all EFL school administrative activities and teaching and learning processes. There should also set up of standards to include digital knowledge and skills as the main criteria for EFL teachers' promotion (i.e., salary and bonus) in order to motivate them to integrate technology into their instruction. Furthermore, EFL teachers' job security should have been maintained in order to motivate them to implement innovation and transformation of EFL education through integrating technology in their instruction. The school administrators should have also provided EFL teachers with counseling with special emphasis on emotional support to cope up with their stress and workloads arising from their online instruction.

Regarding the implementation and practices, school administrators should have set up technical teams to provide sufficient support to both EFL teachers and students to deal with any technical issues arising during their digital teaching and learning processes. The technical support in schools should have been set up to create, share, reuse, and deliver digital resources among EFL teachers. Access to digital resources should have also been facilitated by school administrators to enable easy use for all EFL teachers and students. Moreover, it is essential for EFL teachers to engage in collaborative learning within their community of practice (Lave and Wenger, 1991) to share the key challenges of their online instruction. Through this community of practice, EFL teachers have opportunities to participate in dialogues with their colleagues in terms of identifying the necessary solutions to effectively address such online teaching challenges, discussing the issues encountered in their online instruction, and challenging each other's perspectives regarding conducting high-quality online instruction. Such a community of practice can help teachers broaden their understanding of the issues underpinnings of the online teaching and learning process. Within this community of practice, all EFL teachers, including novice, junior and senior, have the opportunity to openly justify their online teaching practices. By doing so, they can learn from each other about the types of extraneous factors that can exert influence on their online instruction and they can minimize the variation of their online teaching practices. Research indicates that the online teaching of EFL teachers can be improved through self-reflection (Tao, 2014) on their own online teaching practices and their engagement in dialogue with colleagues to share issues regarding the key challenges of their online instruction. Furthermore, the development of a new curriculum to support technology integration should have been planned. This can be done by including technology as a separate subject or by using technology for teaching across the subjects. To embrace technology across the school curriculum, the existing curriculum must be redesigned to include technology integration. The EFL school curriculum and teaching and learning resources should have also been developed to transform their teaching and learning tasks/activities into digital resources. Such curriculum and resources could enable both EFL teachers and students to have a better transition from their physical classes to online classes effectively and efficiently. In addition, the motivation of EFL teachers to implement innovative teaching strategies/pedagogies to improve student interaction and participation in their online classes should have been supported by the school principals and administrators. The EFL teacher teaching pedagogy and student learning styles should have also been altered to suit the online teaching and learning environment. The utilization of classroom assessments should have been transformed into digital assessment tasks to suit online teaching and learning environments. To prevent students from cheating during their online tests/exams, there is a need for developing open-ended test/exam questions as opposed to using closed questions as well as to utilize test/exam results to serve formative purposes (i.e., improve teaching and learning). Research has shown that using assessment tasks for formative purposes rather than for summative purposes (grading) could prevent students from cheating as they were low stakes for students. Research has also indicated that the open-ended test/exam questions had the potential to measure students' deep learning whereas the closed test/exam questions could only measure students' lowlevel thinking abilities and/or rote learning (Tao, 2014).

Conclusion

All EFL teachers in this study indicated six main challenges to online instruction: their students, institution support, teachers themselves, teaching contents, motivation, and technological infrastructure. These participants also reported that they strongly agreed they had challenges developing their teaching content to fit their online instruction. In contrast, they just decided that they had various challenges associated with their students, teachers, motivation, and technological infrastructure during their online instruction. Moreover, these EFL teachers' demographic characteristics comprising their age, number of years of teaching experience, school status (private versus public), school location (city/urban versus rural), qualification level (bachelor's degree versus master's degree), and monthly income level appeared to

have significant influences on the six constructs of online teaching challenges.

As with any research, the present study was not without limitations. EFL teachers' challenges with their online instruction during the COVID-19 outbreak were mainly measured by a set of self-reported questions that could suffer from social desirability bias. Hence, future studies from different angles or approaches should have been conducted to triangulate the findings and further examine the online teaching challenges faced by both public primary and secondary school teachers. Future research should also explore the instructors' and students' attitudes towards blended teaching and learning in higher education institutions given the fact that this new learning platform has just emerged and is still in its infancy stage and needs further development. Moreover, further research should examine the digital literacy and self-efficacy of teachers in integrating technology in their online instruction, as well as their school resources and infrastructure to support online and/or blended teaching and learning platforms in both EFL context and general education contexts, as well as in higher education settings. Such studies would shed further insights into online and/or blended teaching and learning platforms and would offer implications for policy and practices for advancing digital education in the post-Covid-19 outbreak in Cambodia.

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Declaration of Competing Interest

The author has no conflict of interest to declare.

Credit Authorship Contribution Statement

Nary TAO: Conceptualization, Writing-original draft, Writing-review and editing. The author has read and agreed to the published version of the manuscript.

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Nary TAO obtained her PhD in Educational Assessment from Victoria University, Melbourne, Australia, in 2015. She is currently Vice-Dean in the Faculty of Education, Royal University of Phnom Penh. She has supervised research students, as well as examining proposals and theses. Her primary research interests focus on classroom-based assessment, quality assurance, evaluation, internationalization, teacher education, distance education, and academic misconduct by students including cheating and plagiarism.

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Appendix: Extra Tables

Table A-1: The influence of gender on the six constructs of online teaching challenges

	Male (N= 74)		Female (N	l= 53)	t-value	P-value
	WAI	OA	WAI	OA		
Students	0.62	Α	0.62	Α	-0.106	0.916
Institution Support	0.57	N	0.59	N	-0.486	0.628
Teachers	0.69	Α	0.72	Α	-1.034	0.303
Teaching Content	0.80	Α	0.81	SA	-0.662	0.509
Motivation	0.72	Α	0.73	Α	-0.120	0.905
Technological Infrastructure	0.70	Α	0.74	Α	-1.496	0.137

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

Table A-2: The influence of school status on the six constructs of online teaching challenges

	Public (N= 49)		Private (N	l= 78)	t-value	P-value
	WAI	OA	WAI	OA		
Students	0.57	N	0.65	Α	3.371	0.001**
Institution Support	0.48	N	0.64	Α	4.447	0.001**
Teachers	0.68	Α	0.72	Α	1.730	0.086
Teaching Content	0.79	Α	0.82	SA	1.282	0.202
Motivation	0.71	Α	0.74	Α	1.046	0.297
Technological Infrastructure	0.69	Α	0.74	Α	1.776	0.078

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

Table A-3: The influence of school location on the six constructs of online teaching challenges

	City/Urba (N= 106)	n	Rural (N= 21)		t-value	P-value
	WAI	OA	WAI	OA		
Students	0.63	Α	0.55	N	2.599	0.010*
Institution Support	0.59	N	0.50	N	1.899	0.060
Teachers	0.72	Α	0.64	Α	2.109	0.037*
Teaching Content	0.82	SA	0.72	Α	3.660	0.001**
Motivation	0.74	Α	0.66	Α	2.034	0.044*
Technological Infrastructure	0.73	Α	0.68	Α	1.304	0.195

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

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Table A-4: The influence of qualification on the six constructs of online teaching challenges

	Bachelor's degree (N= 64)		Master's c	degree (N= 63)	t-value	P-value
	WAI	OA	WAI	OA		
Students	0.61	А	0.62	Α	-0.318	0.751
Institution Support	0.56	N	0.60	N	-1.062	0.290
Teachers	0.66	Α	0.74	Α	-3.315	0.001**
Teaching Content	0.78	Α	0.83	SA	-1.931	0.056
Motivation	0.72	Α	0.74	Α	-0.809	0.420
Technological Infrastructure	0.70	Α	0.74	Α	-1.666	0.098

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

Table A-5: The influence of age on the six constructs of online teaching challenges

-		Age (20-25) (N= 23)		Age (26-30) (N= 49)		(1-35) (1)	Age (36-45) (N= 21)		F-value	P-value
	WAI	OA	WAI	OA	WAI	OA	WAI	OA	_	
Students	0.58	N	0.61	Α	0.62	Α	0.66	Α	1.209	0.310
Institution Support	0.53	N	0.56	N	0.59	N	0.70	Α	2.101	0.085
Teachers	0.68	Α	0.71	Α	0.71	Α	0.73	Α	0.521	0.720
Teaching Content	0.82	SA	0.81	SA	0.78	Α	0.84	SA	1.451	0.221
Motivation	0.67	Α	0.74	Α	0.70	Α	0.79	Α	1.706	0.153
Technological Infrastructure	0.75	Α	0.73	Α	0.67	Α	0.76	Α	2.228	0.070

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

Table A-6: The influence of number of teaching experience on the six constructs of online teaching challenges

	TEXPER (< 6 years) (N= 63)		TEXPER (6-10) (N= 43)		TEXPER (11-21) (N= 21)		F-value	P-value
	WAI	OA	WAI	OA	WAI	OA		
Students	0.58	N	0.63	Α	0.67	Α	2.898	0.025*
Institution Support	0.53	N	0.61	Α	0.66	Α	1.856	0.123
Teachers	0.68	Α	0.73	Α	0.71	Α	1.301	0.273
Teaching Content	0.80	Α	0.83	SA	0.78	Α	0.565	0.688
Motivation	0.71	Α	0.73	Α	0.77	Α	0.673	0.612
Technological Infrastructure	0.71	Α	0.73	Α	0.73	Α	0.308	0.872

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.

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Table A-7: The influence of monthly income on the six constructs of online teaching challenges

	MIC (< 150 \$) (N= 3)		MIC (150-300 \$) (N= 10)		MIC (301-450 \$) (N= 47)		MIC (> 450 \$) (N= 67)		F-value	P-value
	WAI	OA	WAI	OA	WAI	OA	WAI	OA		
Students	0.53	N	0.57	N	0.59	N	0.65	Α	4.666	0.004**
Institution Support	0.45	N	0.50	N	0.58	N	0.64	Α	6.855	0.001**
Teachers	0.64	Α	0.67	Α	0.69	Α	0.72	Α	0.654	0.582
Teaching Content	0.70	Α	0.72	Α	0.78	Α	0.83	SA	3.218	0.025*
Motivation	0.50	N	0.54	N	0.72	Α	0.76	Α	5.820	0.001**
Technological Infrastructure	0.71	Α	0.68	Α	0.71	Α	0.73	Α	0.641	0.590

Notes: WAI = weight average index measured on a five-point scale [strongly disagree (SD) = 0.00-0.20, disagree (D) = 0.21-0.40, neutral (N) = 0.41-0.60, agree (A) = 0.61-0.80, strongly agree (SA) = 0.81-1.00]. OA = Overall assessment.

^{*}Significance at the 0.05 level.

^{**} Very significant at the 0.01 level.