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The Pivot to Online Learning: A Case Study of EFL Student Teachers' Learning Experiences and Perceptions in China

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by

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Abstract

Teaching and learning online was extensively adopted in English as a foreign language (EFL) teacher education program, as well in education of all levels in China with the advancement of the internet, multimedia information processing, cloud computing, and other information technologies since 1994. However, online education has remained more of a supplement to classroom education, and large-scale normal online education lacks cases and research in China. The COVID-19 pandemic caused profound change in higher education, with closures of campuses globally and migration of learning and teaching practices to online formats. The COVID-19 pandemic disrupted traditional teaching and learning activities, meanwhile, creating opportunities for investigating innovative approaches to EFL teacher education. This case study explored the experiences and perceptions of the Chinese EFL student teachers' online learning, with the COVID-19 lockdown as the context.

This study adopted a qualitative research approach (Denzin & Lincoln, 2011; Merriam & Merriam, 2009) consisting of two distinct phases: an open-ended response questionnaire followed by focus group interviews to investigate the Chinese EFL student teachers' experiences and perceptions of online learning. The participants were EFL student teachers who enrolled in the chosen normal university in China. The data included 148 responses from the open-ended response questionnaire and transcripts from two focus group interviews with 12 participants in total.

The findings from this study showed that a majority of participants had online classes for at least two semesters. Analysis of data on their online class experiences revealed four major themes: learner autonomy, digital skills, Internet connectivity, and

interactivity. The findings indicated that the Chinese EFL student teachers, to a certain

extent, were capable of leveraging digital tools for learning purposes. Meanwhile, the

Chinese EFL student teachers expected more comprehensive support in terms of

technology troubleshooting, time management skills, self-discipline, and online resource

evaluation. This study brought in the Chinese EFL student teachers' voices on their

online learning experiences and perceptions in order to advance EFL teacher education

programs in order to promote further development of online learning in China.

Keywords: Chinese EFL student teachers, online learning, COVID-19 pandemic

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Chapter One: Introduction

The outbreak of the COVID-19 pandemic deeply affected the education sector globally and forced many schools and colleges to close temporarily. Schools and educational institutions adopted online learning to maintain continuity in teaching and learning. The impetus for this study came from a video call between me, an English as a Foreign Language (EFL) instructor, and an EFL student teacher studying English Education at a Normal University. We shared the experiences of taking all courses online that started in 2020 due to the havoc of the COVID-19 pandemic. The Normal University is how teacher colleges are named in China, and a student teacher refers to a university student who is enrolling in a teacher education program in China. The student quoted a line of the lyrics of Leslie Cheung's song released in 2002, *So close yet so far*, to summarize her feelings of the already-experienced eight months' worth of taking all courses online. The COVID-19 pandemic caused profound changes in higher education, with the closures of campuses globally and migration of learning and teaching practices to online formats (Bhagat & Kim, 2020). Both the student and I agreed that having courses online had advantages in terms of flexibility, avoiding transportation issues, and health concerning the risk of the COVID-19 pandemic. On the other hand, we also reflected on taking all courses online in terms of the influence on learning outcomes, learning experiences, mental states, and infrastructure that is required for online courses.

The Report on the Condition of Education 2022 released by the U.S. Department of Education (Irwin et al., 2022) pointed out that "the emergence of the coronavirus pandemic brought major disruptions to all levels of education" (p. 2). What's more, data from UNESCO in 2020 showed that at least 1.3 billion learners of all levels of education

in 142 countries had been affected by lockdown. Due to the phased regional and national

lockdowns in countries worldwide from 2020-2022, the world began searching for

alternative and effective ways of teaching and learning. The COVID-19 pandemic

obligated most education systems to adopt alternatives to face-to-face physical classroom

teaching and learning. As schools and universities around the world closed their doors to

limit the spread of the virus, educational institutions had to rapidly transition to online

teaching and learning to allow instruction to continue despite school building closures.

Governments all around the world took measures to restore learning to the best possible

extent (Owusu-Fordjour et al., 2020), including radio, television, and online platforms.

Online platforms, such as Zoom and Canvas, were widely adopted in order to restore the

communication among teachers and students as well as the continuity of learning

(Karalis, 2020).

Investigations done by both individual researchers and organizations indicated

that the rapid change to online brought forth issues. Issues such as lack of the face-to-face

physical communication that is unique to a physical classroom learning environment as a

result of physical isolation from teachers and peers (Jung et al., 2021). The connectivity

of face-to-face physical communication, such as non-verbal cues, facial expressions,

body language, and gestures, provides additional context and helps teachers and students

understand emotions, attitudes, and engagement, so that teachers and students can

provide immediate feedback that facilitates effective communication and comprehension

(Leung & Chan, 2022; White & Gardner, 2013). Research also indicated that having all

learning online coupled with a global pandemic was also linked to heightened stress and

growing mental health concerns for students and teachers (Cohen-Fraade & Donahue,

2022; Watermeyer et al., 2021). Higher education students reported increased workloads and learning intensification during the COVID-19 pandemic (Fetherston et al., 2020). What's more, the lock-downs decreased access to the internet and increased the financial burden of getting equipment for online courses while many people were out of work (Jaradat & Ajlouni, 2021; Singh et al., 2021). In addition, the Report on the Condition of Education 2022 released by the U.S. Department of Education (Irwin et al., 2022), through specifying the national trends in reading and mathematics achievement of 13-year-old that average scores were lower in 2020 than in 2012 for both subjects, "marking the first time reading or mathematics scores for this age group declined between assessments" (p. 3), the report demonstrated declines in student performance.

The issues called for educators for comprehensive research on online education to effectively support the teaching and learning process under the online mode, especially in countries such as China, where the online learning had previously only been adopted as part of the blended education as a supplement to face-to-face physical classroom settings (Ye, 2020).

Although higher education classes in China had adopted blended education, solely learning online was unprecedented. The outbreak of the COVID-19 pandemic forced education in China to shift online, initiating an unprecedented large-scale shift, where hundreds of thousands of schools, 280 million students, and 17 million teachers embarked on a path they had never taken before—a solely online teaching and learning journey, temporarily departing from traditional classrooms. This is a historic event in the history of Chinese education, commonly called "the great migration to online education" (Ye, 2020, para. 1).

Higher Education Responses to COVID-19 Pandemic in China

In China, lockdown was initially regional and started on 23 January 2020 with the closure of Wuhan City, in the region where the first cases of COVID-19 in China were detected. In a very short time, the lockdown turned from one city into multiple regions countrywide. Meanwhile, I'd like to point out that the COVID-19 pandemic lockdowns in China were carried out at the regional level and with consideration of the extent of the outbreak as well as the time of occurrence. In other words, one community/campus could have had several lockdowns and re-openings in between and a lockdown could start a few hours after an outbreak occurred in the community. The Chinese Ministry of Education responded immediately in 2020 and launched an emergency policy initiative *Disrupted Classes, Undisrupted Learning* (Ministry of Education of the People's Republic of China, 2020). According to the policy, all teaching and learning activities moved online in the regions where lockdowns were carried out then. Teaching and learning activities moved online at a large scale as lockdowns occurred in multiple regions across the country at the same time. Based on choices of certain institutions of higher education, multiple online platforms (e.g., VooV Meeting, Super Star Learning, DingTalk) were adopted to support teaching and learning. Learning was offered in two modes: (i) synchronous mode, forms of education, instruction, and learning that teachers and students are engaging in learning at the same time, and (ii) asynchronous mode, forms of education, instruction, and learning that do not occur in the same place or at the same time, but use online platforms that "facilitate information sharing outside the constraints of time and place" (Mayadas, 1997, p. 5) among a network of teachers and students.

UNESCO Institute for Information Technologies in Education (IITE), UNESCO International Research and Training Centre for Rural Education (INRULED), Smart Learning Institute of Beijing Normal University, and other partners jointly released a *Handbook on facilitating flexible learning during educational disruption* (Huang & Liu, 2020) to suggest flexible online learning strategies to ensure online learning to over 270 million students from their homes. According to Wu Yan, director of the Department of Higher Education, Ministry of Education of People's Republic of China, at a press conference on 14 May 2020, in total, as of 8 May 2020, 1,454 colleges and universities across the country launched the online teaching and learning, 1.03 million teachers launched 1.07 million online courses, 17.75 million college students participated in online learning, and the rate of online courses offered by colleges and universities nationwide reached 91%. Wu Yan declared that online courses covered all 12 disciplines: science, engineering, agriculture, medicine, economics, management, law, literature, history, philosophy, art, and teacher education.

In China, normal universities hold the responsibility for both the initial training of prospective schoolteachers and the continuing professional development of in-service teachers. These institutions are overseen and financially supported by governmental authorities at the national or local level (Xu, 2011; Zhou, 2020). The teacher education programs at normal universities, including the EFL teacher education programs, also experienced an unprecedented transition from face-to-face physical to remote mode of learning amid the COVID-19 pandemic outbreak and subsequent lockdowns.

Motivation and Rationale for the Study

My interests in studying the Chinese EFL student teachers' experiences and perceptions of online learning arose for several purposes.

First, English as a Foreign Language (EFL) teacher education is essential in today's globalized world, as it can provide individuals with numerous personal, academic, and professional benefits. English is the most widely spoken language in the world and is the language of international communication (Rao, 2019). This means that learning English as a foreign language enables individuals to communicate effectively with people from different cultures and countries. English proficiency is often a requirement for many jobs in international business, academia, and government. Being able to speak and write English fluently can open up new opportunities for career advancement. Many universities and colleges require international students to have a certain level of English proficiency to be admitted. That is, learning English as a foreign language can help students achieve their academic goals (Bergey et al., 2018; Dimova, 2020).

In the context of China, the steady rise in the world economy over the past few decades has brought the country more international opportunities. This made English, a medium of international communication, receive more attention, which is then reflected in education, where English is one of the compulsory subjects at all levels of school curricula (Ministry of Education of the People's Republic of China, 2012) and the English proficiency test is a compulsory subject for the national college entrance examination. This leads to a need for quality English teachers. Generally, normal universities (teachers' colleges) are responsible for the preparation of EFL teachers at the

schools of K-12 in China. These institutions provide four-year teacher education

programs that culminate in a bachelor's degree and master's degree.

The COVID-19 pandemic disrupted traditional teaching and learning activities,

meanwhile, creating opportunities for investigating innovative approaches to EFL teacher

education (Ali & Khan, 2020; Chen & Lian, 2021). The call for innovation is decades

old, for example Chapelle (2003) asserted, "Teachers need to learn to use computer

technology for constructing and implementing materials for teaching English, and they

need to engage in innovative teaching through the use of technology" (p. 31). The

COVID-19 pandemic moved teaching and learning online from a choice to a necessity in

China. To conduct in-depth studies into the Chinese EFL student teachers' online

learning experiences and perceptions could help with identifying the specific challenges

they faced, as well as to inform EFL teacher education programs to develop targeted

instruction, support, strategies and resources for the EFL student teachers (Zhang et al.,

2020) in terms of a comprehensive online education environment in order to continue

innovating EFL education and utilizing the affordances that digital tools allow.

Second, online learning gained significant prominence, some of the notable aspects

of online learning includes providing individuals with accessible education regardless of

their geographical location and transportation concerns (Allen & Seaman, 2017); offering

flexibility in terms of accommodating individuals with diverse personal and professional

commitments, allowing them to balance their education with other responsibilities (Mean

et al., 2013) and providing learners with a rich and engaging learning experience which

can enhance understanding and knowledge retention via incorporating multimedia,

interactive elements, and collaborative tools (Önder & Akçapınar, 2013; Steenkamp &

van Schalkwyk, 2023). Online learning has become ubiquitous, with a significant

presence in educational institutions, professional training programs, and informal

learning environments (Seaman & Seaman, 2017), which leads the teachers needing to be

prepared with knowledge and skills for online teaching and learning (Pawlicka et al.,

2022). Specifically, teachers need the digital literacies knowledge and skills to be able to

(a) operate digital hardware and software and adopt various technologies to teaching

situations, (b) search and retrieve, manipulate and evaluate, synthesize and create digital

content, and (c) interact with textual, sound, images, videos, and social media and to

communicate /networking with others using ICT (e.g., Akayoglu et al., 2020; Ata &

Yıldırım, 2019; Durriyah & Zuhdi, 2018; Şengül & Demirel, 2022; Sert & Li, 2019).

Additionally, teachers need the knowledge and skills specific to online pedagogy,

including preparing teachers to be digitally literate for "the use of digital technologies for

a dynamic learning environment that could enhance learning and teaching (e.g.,

Abdelhafez, 2021; Ertürk, 2022; Eryansyah et al., 2020; Park & Son, 2022).

China highlighted efforts to innovate EFL teaching and learning. The use of

technology in EFL teaching was reflected in the several updates of the English

curriculum (Ministry of Education, 2012, 2017, 2022) in K-12 level and the College

English Curriculum Requirements (CECR) at the higher education level (Ministry of

Education, 2007, 2012, 2017). Both curricula indicate that EFL teachers should possess

the technology knowledge to obtain information and resources online, design courseware,

and carry out ICT integrated teaching in the classroom. Thus, to conduct in-depth studies

into EFL student teachers' online learning experiences could help with identifying the

factors and challenges they faced, as well as to inform EFL teacher education programs

to address EFL student teachers' learning needs and modeling best practices to support

student teachers' readiness of conducting ICT integrated EFL teaching. Although the

teaching and learning online as part of the teaching model is not new in China, it has not

become one of the popular teaching formats in China (Wang, 2019). It mainly was

adopted as the other part of the blended education, or as a powerful supplement to face-

to-face physical classroom teaching and learning (Ye, 2020). It is not the first time that an

epidemic-caused crisis impacted human activities, however, the COVID-19 pandemic

was the most serious event that left education of all levels in China no choice but to carry

out all education activities outside tradition brick and mortar schools and classrooms,

which serves as the context for investigating the EFL student teachers' experiences and

perceptions of online learning. This study shed a light on the effectiveness, efficiency,

and relevance of quality EFL teacher education programs, ultimately preparing EFL

student teachers for successful careers in the field of education.

Third, leaning on the theory of technology, pedagogy, and content knowledge

(TPACK) (Koehler et al., 2013; Mishra & Koehler, 2006), it is evident that the

technological pedagogical knowledge required for online teaching is content-specific.

EFL teacher education in China has long been focused on content knowledge and

pedagogy techniques in the classroom context. Technology had a transformative impact

on education, with possibilities to revolutionize the way students learn and teachers teach.

The large-scale pivot to online learning due to the COVID-19 pandemic lockdown caused

teacher educators to pay attention to preparing EFL student teachers with pedagogical

strategies (e.g., build a supportive online environment, multimedia curriculum design,

and interaction through web 2.0 tools) in online learning to effectively meet the needs of

their students and maximize their learning outcomes in their career life. Definitely, we must not go back to the way teacher education was before the pandemic.

Furthermore, the issued *Action Plan for the Revitalization of Teacher Education (2018-2022)* by the Ministry of Education of China (2018) emphasized the need to promote online education to fully leverage the role of normal universities that strengthen the construction of the teacher education system. Also, the Report at the 20th National Congress of the Communist Party of China (Xi, 2022) highlighted further development of online education. The COVID-19 pandemic highlighted the need for flexibility and adaptability in the EFL teacher education programs, which can inform the design of more resilient and sustainable programs in the future. To conduct in-depth studies into EFL student teachers' online learning experiences, for which the achieved knowledge can inform the design of effective online education in EFL teacher education programs and help prepare future EFL teachers with advanced English proficiency and for the online teaching and learning in the post-pandemic. In addition, having been in EFL student teacher education for 14 years, I feel more obliged to focus especially on researching perceptions of online learning of EFL student teachers in education programs in order to advance the field that serves as my professional home.

Problem Statement

The COVID-19 pandemic lockdown caused a rapid shift of teaching and learning of education of all levels to solely online mode in quite a few regions in China. Although internet and information and communication technologies (ICT) have been integrated into our daily lives, as well as exposed to people in higher education in the past few decades, surprisingly, many students reported they missed the Orthodox mode – face-to-

face physical mode during the COVID-19 pandemic lockdown, though expressed their affirmation of the online learning mode brought to the learning process (Huang et al., 2020). Students' belief about the best conditions (e.g., learning environment, accessibility, interactivity) to support their learning (e.g., experiences, outcomes) appeared to play a large role in their preference in learning modes (O'Neill & Sai, 2014).

Given online teaching and learning in China was a sub-optimal substitute for face-to-face physical instruction (Ye, 2020), concerns arose about the absence of universal access to infrastructure (e.g., devices, Wi-Fi) and lack of timely preparation among teachers and students in terms of the demands that online teaching and learning pose (e.g., digital literacies) (OECD, 2020). In addition, concerns arose over the transition to online learning in terms of the interruption to face-to-face physical classroom learning that many students and teachers have been used to. In other words, completely learning online was seen by students as an exception rather than a standardized learning setting (China Education and Research Network, 2021). Students also reported drawbacks of online learning, such as students had a harder time producing their work, complained of increased workload as means by teachers to ensure engagement, and a feeling of less connection to the school community (China Education and Research Network, 2021). Thus, a study on the Chinese EFL student teachers' experiences and perceptions of online learning, with the COVID-19 lockdown as the context, could contribute to improving curriculum design, online learning environments, and pedagogical strategies to support their learning.

Purpose Statement and Research Questions

The purpose of this case study is to understand the Chinese EFL student teachers' experiences and perceptions of online learning at a Normal University in China. According to Yin (2018), case study is a research method and an empirical inquiry that "investigates a contemporary phenomenon (the 'case') in depth and within its real-world context" (p. 45). Case study could provide certain insight into curriculum design, teaching environment setting, and pedagogical strategies that are contextualized for online class for EFL student teachers with teacher education programs in China during pandemic and post-pandemic times. In accordance with the purpose of the current study, sample selection involved recruiting participants from one Normal University that served as the case. This study aimed to answer two research questions. The research questions for this study are:

1. What are the EFL student teachers' experiences of online learning in China?

2. How do the EFL student teachers perceive their online learning experiences in China?

Significance

In the 21st century, modern technology has become an integral part of people's lives in regard to revolutionizing the way we communicate, access information, address healthcare needs, entertain ourselves, as well as boosting productivity and the efficiency of human activities. Educational institutions are incorporating technology to propel higher education forward in terms of increasing access to resources, promoting flexible learning, fostering collaboration, enhancing teaching and research, and improving administrative efficiency, ultimately enriching the overall educational experience (Sarkar

et al., 2021). The COVID-19 pandemic highlighted that online learning could be a

powerful alternative to traditional teaching and learning activities. This emphasized the

importance of knowledge of digital literacies for teachers and students, making it an

opportune time to investigate the challenges and opportunities of online learning

(Peimani & Kamalipour, 2021). According to Lockee (2021), "Paths for greater access

and opportunities to online education have now been forged, and there is a clear route for

the next generation of adopters of online education" (p. 5). In other words, the use of

multiple delivery modes (e.g., in person, online, HyFlex model) is likely to remain, and

will be a feature employed in education of all levels (Bashir et al., 2021). Educators are

expected to adopt the appropriate instructional delivery option based on which

pedagogical approach will best support the success of learners.

The COVID-19 pandemic that forced a global shift to online teaching and

learning, reminds educators to examine the teaching and learning process of online

learning to advance practices for teacher education of online learning (Zhou & Li, 2020).

Kamhi-Stein (2000) suggested that "if ESL teachers are to use technology effectively for

teaching in the future, they must use it for learning while they are students" (p. 424). By

examining the Chinese EFL student teachers' experiences and perceptions of online

learning, teacher educators can gain insights into the effectiveness of pedagogical

approaches and instructional strategies employed in the EFL teacher education programs

to promote students' understanding of online teaching methods, technological skills,

student engagement, and learning outcomes. In other words, the significance of this study

lies in offering valuable insights into the online learning experiences of EFL student

teachers. These insights can suggest effective practices when instructing EFL student

teachers and facilitating their journey towards effective learning. Additionally, this study contributed to the advancement of EFL teacher education in terms of well- prepared EFL student teachers for teaching online when transitioning to teaching positions.

What's more, the study provided lessons learned from the EFL student teachers' themselves, adding their voice to the research literacy. Through bringing the voices of the EFL student teachers' online learning experiences, their positions as learners and stakeholders that reflect on what can and should be done to continue advancement of the EFL teacher education programs in this global digital era.

The launch of this large-scale online education activity provided valuable experience for the further implementation of online education, enriched people's understanding of online education, and increased the integration between educational technology and education and teaching. Understanding the Chinese EFL student teachers' experiences and perceptions of online learning allows EFL teacher educators to develop further comprehension of teaching and learning in online mode and insights to furtherly advance the delivery of online instruction to ensure a positive and effective learning experience for the EFL student teachers.

Chapter Two: Literature Review

Reviewing previous studies of online learning, this section describes the learners'
experiences and perceptions of online learning with a focus on the field of EFL teacher
education. This case study adopts three learning theories, namely constructivism learning
theory, community of practice, and community of inquiry, for understanding EFL student
teachers' online learning experiences and perceptions in China with the COVID-19
pandemic as a context. The development of modern technology requires the need of EFL
teachers to be able to teach their classes online, foreseeing the transition from traditional
to further blended or fully online learning models.

Online Learning in EFL Teacher Education

Online learning is defined in the work of Singh and Thurman (2019) as "learning
experiences in synchronous or asynchronous environments using different devices (e.g.,
mobile phones, laptops, etc.) with internet access. In these environments, students can be
based anywhere (independent) to learn and interact with instructors and other students"
(p. 289). This teaching-learning mode holds the potential to be student-centered and to
result in greater innovation and flexibility in teaching and learning (Qie et al., 2021).

Online learning has become a solution in this increasingly digital world to cope
with situations where learners are not able to attend physical educational institutions for
medical, geographical, or personal reasons. There are multiple published empirical
studies on the impact of online learning on the learning process. This section reviewed
previous empirical research (e.g., Abu-Ayfah, 2020; Çamlıbel-Acar & Eveyik-Aydın,
2022; Hazaymeh, 2021; Sharma, 2019) on learners' experiences and perceptions of
online learning concentrating on the realm of EFL teacher education that corresponds

with the research questions of this study. As technologies evolve, technologies afforded

online teaching and learning (e.g., learning environment, platforms, and pedagogy) to

continue to transform as well. The cited empirical research in this section is primarily

focused on the last decade (2015-2024) publications for the review of learners'

experiences and perceptions of online learning.

The research exploring EFL student teachers' learning experiences and

perceptions of online learning has yielded varying results. Quite a number of studies

(e.g., Ahmadi & Reza, 2018; Bailey, 2022; Buragohain et al., 2023; Grigoryeva et al.,

(2021) reported findings that indicate the positive learner experiences and perceptions of

online learning in EFL teacher education and the EFL context, while a reasonable amount

of research (e.g., Adnan & Anwar, 2020; Ghavifekr et al., 2016; Lestiyanawati &

Widyantoro, 2020; Mevlina et al., 2020) results showed opposite/negative experiences

and perceptions. This section described both favorable and negative EFL student

teachers' experiences and perceptions of online learning that have been shown in the

literature.

The Positive Learner Experiences and Perceptions of Online Learning

Multiple studies showed the positive learner experiences and perceptions of

online learning during the learning process, that is, online learning promoted the EFL

student teachers in ways such as learning flexibility, learning interactivity, learning

motivation and class engagement/involvement, and technology knowledge and skills.

Learning Flexibility

It was concluded by previous research (e.g., Alshawi & Alhomoud, 2016;

Çamlıbel-Acar & Eveyik-Aydın, 2022; Sharma, 2019; Suppasetseree & Dennis, 2010)

that online learning can benefit EFL student teachers' learning with its instantaneous

accessibility. In other words, students can benefit from learning online by accessing the

learning materials without arriving at campus. For example, Sharma's (2019) study on 60

Saudi undergraduates' perspectives on social media usage to promote EFL learning

showed that the students enjoyed the use of social media for their EFL learning, through

which they could access the learning materials anytime anywhere. Çamlıbel-Acar and

Eveyik-Aydın (2022) presented a study with 132 EFL student teachers of online learning

at a state university in Turkey, which having instant access to learning materials, or in

participants' words, "the opportunity to rewatch recordings at any time" (p. 5) was the

most frequently cited advantage by the EFL student teachers. Integrating online learning

into the conventional methods of EFL teaching and learning has been increasingly used

for enhancing the EFL teaching and learning process in terms of uploading, downloading,

and sharing document features inside and outside the class, making course navigation

easier (Suppasetseree & Dennis, 2010). In addition, studies have revealed that online

learning contributes significantly to EFL teaching and learning in ways of acquiring

information through various online tools, resources, and platforms in multiple modes as

well as facilitating students' ability to revisit the course information at any time (e.g.,

Abu-Ayfah, 2020; Ahmadi & Reza, 2018; Lai & Kritsonis, 2006).

Learning Interactivity

        In terms of online learning that promoted learning interactivity, previous studies

such as Hazaymeh's (2021) study on 60 EFL student teachers' online learning

experiences suggested that online learning helped with improving learners'

communication skills and collaboration, as well as enriching their learning experiences

through online platforms and applications. Hazaymeh's findings were echoed by Bailey's (2022) study on 547 South Korean university EFL students suggested that online learning promoted learner-learner, learner-instructor, and learner-content interactions within the online class through the use of online platforms and applications. The online discussions in bulletin board systems, online video conferences increased the frequency of in and off-class interactions among participants. What's more, Cad et al.'s (2021) study reported the success of using digital tools (such as Educaplay, Genially and Quizziz) to foster different modes of interaction in live sessions for 100 EFL undergraduate students in a teacher training university program in Argentina. Their study suggested that the combined various online resources promoted teacher-student-content interactions as well as promoted language learning. A study conducted by Buragohain et al. (2023) examined the online learning experiences of 220 EFL undergraduate students over seven months, spanning two consecutive academic semesters. The findings suggested that various social media platforms and applications afforded learning activities (e.g., blogging, video making, online exercises, and digital storyboarding) played a significant role in motivating students to engage in more peer interactivity and learning engagement.

In addition, Grigoryeva et al.'s (2021) case study identified the opportunities of online learning (i.e., the Moodle platform) in EFL learning at a university in Russia. Their research found that online setting affords the process of the formation of the future EFL teachers' English-speaking competence in ways that allow teachers to create their own online learning courses. Both teachers and students could easily exchange files, carry out personal communication, and receive feedback. They concluded that the opportunities presented by online settings make it possible for EFL student teachers to

"achieve the necessary level of communication skills and meet the modern requirements for philologists and teachers" (p. 8).

Both Kamhi-Stein's (2000) earlier study at an urban university and Southern California and later research with colleagues (Kamhi-Stein et al., 2020) indicated online learning promoted interactivity during TESOL student teachers' learning process. Kamhi-Stein's (2000) study of a TESOL teacher preparation program with 20 student teachers' online learning suggested that online bulletin board discussions encouraged student teachers' student-student interactions and developed knowledge through peer support and collaboration. TESOL student teachers expressed favorable attitudes regarding the utilization of online bulletin board discussions as a way to gain insights into the perspectives of their peers. Kamhi-Stein et al. (2020) reported that all eight student teachers who participated in the study found online settings (i.e., Mursion, an online mixed reality simulation platform) to be extremely effective for them to enrich their teaching experiences in ways of interacting, exchanging, and practicing teaching with peers and teachers. Furthermore, studies have suggested that online learning facilitates access to diverse teaching materials, interactive learning platforms, and collaborative opportunities and ultimately enriched the overall experience for learners (e.g., Golonka et al., 2014; Shadiev & Yang, 2020). Also, EFL student teachers found learning online facilitated the developing of language pedagogy because of the multimodal, interactive, and collaborative tech tools-integrated in-person classes as well as a fully online program (e.g., Armstrong, 2011; Keengwe & Kidd, 2010).

Learning Motivation and Class Engagement/Involvement

Previous studies on EFL student teachers' online learning experiences also reported that the use of online learning platforms in the learning process stimulated EFL learner's learner motivation and class engagement/involvement. For example, Alshawi and Alhomoud's (2016) study conducted on 255 EFL students at a University in Saudi Arabia showed that the use of Edmodo (a free educational website) that was structured as a social network stimulated learning motivation and class engagement/involvement in terms of user friendly design, through which students found it easy to find their curriculum, related subjects, assignments, quizzes, grades and groups to chat with all in one organized place. Also, Edmodo offered alternative ways for students who found it stressful to communicate orally to interact with other students and teachers through its online discussion board. Dimitroff et al. 's (2018) study involved 222 EFL undergraduates in Turkey on the impact of online learning in terms of language environment on student motivation. The findings suggested that online platforms featured by the online discussion board and various technology-enabled games (e.g., Quizlet and Kahoot) helped with EFL students' increased practice of the English language and maintained their level of engagement in class. In a university in Malaysia, Putra's (2021) 3-month action research on the EFL students' motivation with the use of Google meet found that the Google meet significantly improved the students' motivation in learning English and "the students actively participated and was engaged in teaching-learning process" (p. 41). What's more, Edmodo, with its communities, stimulated further inquiry among students and enriched the EFL students' learning process with profound information. A study on EFL students' online learning via implementing WhatsApp

Group in a university in Indonesia showed that EFL students showed a high learning motivation and class engagement/ involvement for the easy access, good familiarity of WhatsApp Group (Fiddiyasari & Pustika, 2021). In addition, Hernández and Flórez's (2020) study involving 22 EFL students' online learning suggested that synchronous encounters and access to information positively impacted the EFL students' motivation levels. Specifically, online games, interactive worksheets, and simultaneous guidance and feedback fostered and maintained a high level of EFL students' learning motivation and class engagement/ involvement. Dhamayanti (2021) investigated EFL students' perception and motivation towards online learning involving 106 participants, most of whom had positive perception of the use of Quizizz as online learning media, which increased EFL students' motivation during online learning.

Technology Knowledge and Skills

Previous research has also found that online learning promoted EFL student teachers in technology knowledge and skills learning. For example, Sepulveda-Escobar and Morrison's (2020) study on 27 Chilean EFL student teachers viewed online practicum teaching as a positive and autonomous experience. Through this, they acquired new knowledge, including familiarity with various online platforms and strategies for developing innovative learning content and materials. Bailey and Lee's (2020) study in South Korea, with 43 EFL instructors without prior online education experience considered training for teaching online an opportunity advantageous for their professional growth, as it provided them with a chance to enhance their proficiency in technology use, thereby improving their technology knowledge and skills. Suharsih and Wijayanti's (2021) research on EFL students' online learning experiences from one public university

in Banten showed that the EFL students perceived positively that online learning is useful in terms of "technological skill mastery" (p. 249). In other words, online learning has promoted EFL students to be more familiar with the use of applications, websites, and many more online platforms that were used for their learning.

Overall, previous research showed EFL student teachers had positive learner experiences of online learning. By embracing online learning modalities, EFL student teachers can enhance their professional growth and readiness to teach English language in diverse educational settings.

The Negative Learner Experiences and Perceptions of Online Learning

Previous research has suggested several ways in which online learning can benefit EFL student teachers' learning. On the other hand, previous studies also revealed EFL student teachers' negative experiences and perceptions in terms of technical issues, reduced learning motivation, lack of technical support, and lack of personal interaction.

Technical Issues

Previous research findings have shown that many students and teachers have reported internet access issues involved in online learning, and many cases of internet access issues were teachers and students who reside in areas where internet infrastructure has not seen significant developments (e.g., Adnan & Anwar, 2020; Ghavifekr et al., 2016; Lestiyanawati & Widyantoro, 2020; Mevlina et al., 2020; Slapac et al., 2023). Also, previous research findings suggested the fact that technical problems and/or limited access to technology have caused negative impacts on students' learning online (e.g., Khan et al., 2023; Papageorgiou & Callaghan, 2014). In other words, students with poor internet connectivity have missed opportunities during the learning process. The poor

internet access had negative impacts on any learner's online learning ranging from

accessing online learning resources to assessments, as well as building a sense of

community in the online learning environment. For example, a study involving 257

undergraduate students showed that students who reported experiencing poor internet

connectivity throughout the semester had a nearly fivefold higher incidence of missed

assessments compared to those who did not report connectivity issues (Onuh et al., 2020).

Mabrook's (2020) study involving 100 Saudi EFL students' online learning experiences

indicated that poor internet connection gave the learners fewer opportunities to be

exposed to listening and speaking. Aryanti (2020) also reported that the students

considered unstable internet connection issues to be one of the most crucial challenges

for their online learning, as sufficient internet accessibility was tightly related to their

engagement with the provided lessons, materials, and many more.

Reduced Learning Motivation and Class Engagement/Involvement

Motivation plays a crucial role in positively influencing the educational learning

process, particularly when it comes to learning a second language (Rehman et al., 2014;

Woolfolk, 1998). Research cited and discussed above showed that online learning

platforms stimulated EFL learner's learner motivation and class engagement/

involvement in the learning process. On the other hand, previous research also found that

online learning reduced learning motivation in online learning environments. For

example, based on the preliminary observation during online learning by Putra (2021) in

an EFL class at a university in Malaysia, the researcher found students' low learning

motivation to online class was dominated by a heavy load of assignments, and

asynchronous encounters. Esra and Sevilen's (2021) study of EFL students in a university

in Turkey on their perceptions of online learning in terms of learning motivation

suggested that online learning had a negative impact on learning motivation primarily

stemmed from factors such as the absence of social interaction and issues related to the

structure of learning environments. In addition, Irawan et al.'s (2020) qualitative research

on the experiences of EFL student teachers' online learning at a University in Indonesia

showed that the participants found high amounts of assignments were ineffective but

caused low learning motivation.

Previous studies also indicated that online learning had negative impacts on

learning motivation and class engagement/ involvement includes factors such as a

mismatch between expectations and content, organizational problems and the

organization of learning environments (e.g., Dimitroff et al., 2018; Esra & Sevilen,

2021). In addition, Hijazi and AlNatour's (2021) study involving 7,725 EFL students at a

university in Jordan suggested that 78% of the participants reported decreased learning

motivation and class engagement/ involvement for not using different teaching methods.

It's important to note that while online learning offers various motivational benefits,

individual preferences, and learning styles vary, effective course design, instructor

support, and sufficient use of online settings are crucial in sustaining learner motivation

for online learning. Sumardi and Nugrahani's (2021) research on online learning (i.e., use

microteaching via YouTube, Zoom, and SPADA platforms) experiences of 17 EFL

student teachers in the Indonesian context indicated that the prominent challenges were

that these EFL student teachers had limited control over students, who were behind the

screen/camera, to engage them during the online class. This revealed the challenges of

online learning in class monitoring behind the screen/camera but advocates the need to

prepare teachers to be creative for the effective instructional strategies to promote

effective learning. That is, corresponding measures in strengthening learning motivation,

corresponding pedagogical strategies and resources in terms of personalized learning, and

a reconstruction of the structural relationship between teachers and students. To this

point, Handsfield (2016) also suggests that "the proliferation of digital tools and the

potential collaborative online spaces push educators" (p. 113) to position students as

producers and consumers in the process of teaching and learning.

Lack of Personal Interaction

Previous studies also found that online learning may lack some aspects of

personal interaction inherent in traditional education. Not having face-to-face physical

contact with other students and teachers also took away non-verbal communication,

which inhibits expression (e.g., Drag, 2020; Paradisi et al., 2021). Researchers Memić-

Fišić and Bijedić (2017) indicated that it is very challenging to use the online setting to

teach the English language because of the absence of direct interaction between teachers

and learners. In other words, not having timely feedback/interaction can hinder student's

learning. The study used 2015 The National Survey of Student Engagement (NSSE) data

from 300,543 college freshmen and seniors from 541 U.S. institutions suggested that

"the students with greater numbers of online courses also reported less exposure to

effective teaching practices and lower quality of interactions" (Dumford & Miller, 2018,

p. 452). Using a dataset containing nearly 500,000 courses taken by over 40,000

community and technical college students in Washington State, Xu and Jaggars (2014)

revealed that students found difficulties in communication due to the delayed responses

and multiple speeds of users, and "all types of students performed more poorly in online

courses than they did in face-to-face courses" (p. 637). In other words, online learning often lacks face-to-face interaction, and this absence of direct personal engagement can impact collaboration and a sense of community.

Lack of Technical Support

Previous studies also reflected negative learner experiences and perceptions of online learning in terms of lack of technical support, including the internet access, digital competence and devices for online classes that are found to be essential and in need for students' academic success in learning. For example, Chen's (2022) study revealed that student teachers found themselves only having limited access to the tools/apps for their online teaching mock class lead-in activities design. Student teachers could only either stay with the few free tools provided by school or pay out of their own pocket for more up-to-date ones or choose the free trial of those versions. Some tools/apps are not available due to regional restrictions. The challenges of EFL student teacher online learning lie in comprehensive tech support from school level and policy level in terms of various tools to afford EFL student teachers' interaction with technology (digital competence) and online teaching strategies. This finding was in line with Mahyoob's (2020) findings on the challenges confronted by EFL learners in Taibah University, Saudi Arabia. Mahyoob reported a worry about the technical issues such as materials downloading/ uploading, video, audio play. There lies an expectation of advancing to tackle the technical issues from low-stability and low-compatibility of platforms. Sepulveda-Escobar and Morrison's (2020) case study on exploring the challenges of 27 Chilean EFL student teachers' online learning indicated that participants reported having been struggling for months for their online learning due to studying course content and

familiarizing with the online settings at the same time. What's more, Xiao et al. 's (2020)

study on online learning experiences of 115 EFL student teachers from a normal

university in Leshan, China also indicated that school's technical support in internet

access reduces class absence. Students could use mobile phones to access the class when

lost Wi-Fi at home and apply for financial aid for the expense on the mobile traffic plan

(as not all students budget for unlimited data/quota service).

Previous research showed EFL student teachers had negative learner experiences

of online learning. These negative experiences can impact students' satisfaction with

online learning and hinder their academic performance. Addressing technical issues,

providing robust technical support, and fostering opportunities for social interaction and

engagement are essential for improving the online learning experience and promoting

student success.

EFL Student Teacher Online Learning in China

Teaching and learning online was extensively adopted in education at all levels in

China with the advancement of the internet, multimedia information processing, cloud

computing, and other information technologies since 1994 (Zhang & Wang, 2019). Major

programs of the integration of information communication technologies (ICTs) into

education of all levels includes, 211 and 985 projects, Education promotion plan of action

for the 21st century, Rural elementary and secondary school distance education project,

Campus computer network construction project for universities in West China, Networks

between schools project (Wang et al., 2018). These policies and projects of China's

integration of ICTs in education have constructed a large number of digital resources,

including national-level quality courses, quality video open courses, five-minute classes,

MOOCs (Massive Open Online Courses), micro-lectures, and diverse types of digital resources databases. Also, programs (e.g., National *training program*) for in-service and pre-service teachers in the use of educational technology have been initiated by the Minister of Education of China and launched to campus sites (Xiong & Luo, 2011). Although widely adopted, online education was seen as a supplement to traditional modes of teaching and learning (Lockee, 2021). What has been seen more generally in China, also applies to the case of EFL education typically adopted a blended mode as a supplement to face-to-face physical classroom settings (e.g., flipped classroom), cross-campus course selection, MOOCs or non-degree courses for adult education. The COVID-19 pandemic-caused rapid shift to online teaching and learning led higher education institutions in China to further discover the potential of online educational practices (e.g., hybrid mode, remote mode) to make higher education more flexible, accessible, and attainable for students to obtain degrees. For example, Shanghai University of Finance and Economics (2022) furthered its degree programs of accounting through continuing the remote teaching mode after the lockdowns ended, allowing students who could not attend classroom learning due to various reasons to enjoy the high-quality teaching resources of the university and obtain a bachelor's degree. In addition, as of October 2020, Tsinghua University, worked collaboratively with Peking University, Zhejiang University, Hong Kong Polytechnic University, and National Taiwan University, to develop and launch the "School Online" platform to provide online courses to students throughout China and worldwide. Since then, higher education students in China have been able to get access to high-quality educational resources at home and abroad through this online education platform (Huang et al., 2020).

The development of Chinese EFL student teachers' online learning fell in the track of online education in China described above. Previous research on Chinese EFL student teachers' online learning indicated the similar findings as the literature cited above in terms of both positive and negative experiences and perceptions. EFL student teachers had access to a large number of digital resources (e.g., quality video open courses, five-minute classes, MOOCs, micro-lectures, and diverse types of digital resources databases) to their learning at any time and in any place (Ren & Lu, 2015; Yuan & Liu, 2014). The use of Coursera platform for online courses to EFL student teachers from three teacher education programs indicated that students had positive attitudes towards online learning in terms of user-friendly platform system, flexibility, and timely interactivity between teachers and students (Zhang et al., 2018). On the other hand, Chinese EFL student teachers' online learning have encountered circumstances such as technical issues, lack of tech support, low class engagement (e.g., Chen, 2022; Li, 2015; Wei, 2016; Xiao et al., 2020; Wang & Liu, 2023) that hindered EFL student teachers' learning. Xiao et al.'s (2020) investigation on 236 EFL student teachers' online learning experiences in a normal university in Guangdong, China. The EFL student teachers reflected experiences of feeling lost and confused during the asynchronous mode of online classes, with low passion to engage to the both asynchronous and synchronous modes of online classes. The EFL student teachers expected the online classes to be better organized in terms of clear instruction approaches/activities, and timely feedback/interactions.

The findings of the studies mentioned above not only suggest the impacts of online mode to the teaching and learning process, but also indicate teacher education

programs to pay attention to prepare teachers with pedagogical strategies to become

prospective teachers in their career life in an era where ICT integrated with education to

an unprecedentedly high degree.

Theoretical Framework Informing the Current Study

Proposed by scholars and researchers of the helpfulness of combining theories to

carry out studies (Clarke, 2008; Dang, 2013; He & Lin, 2013), this case study adopted a

multiple-theory lens in understanding EFL student teachers' experiences and perceptions

of online learning. The following section will describe the theories adopted to understand

the Chinese EFL student teachers' online learning experiences and perceptions. Three

theories, constructivism learning theory, community of practice, and community of

inquiry were adopted as a framework of multiple theories that served as a lens for

understanding the Chinese EFL student teachers' online learning experiences and

perceptions. Constructivism learning theory serves as a lens to review the process of

learners constructing meaning through communication, activities, and interactions with

others in the online environment (Swan, 2005). The community of inquiry framework

helps decipher if the online mode provides a meaningful educational experience for the

EFL student teachers majoring in English Education (Chambers, 2019). Wenger's

communities of practice (CoPs) theoretical framework could provide a conceptual

direction for the investigation of the online learning environment in higher education

(Smith et al., 2017).

Social Constructivism

Constructivism serves as one of the theoretical frameworks for the current

research. The central idea of constructivism is that people build new knowledge upon the

foundation of previous learning and learning is active rather than passive (Jonassen et al, 2003), and knowledge is constructed through socially mediated cognition originating from an individual's experience in a social world (Powell & Kalina, 2009). There are two main lines of constructivism including cognitive constructivism based on Piagetian view and social constructivism based on Vygotskian perspective (Swan, 2005). The former focuses on knowing and learning from the individual's side, and the latter examines the relationships between society and individuals. In the line of social constructivism, teachers play a more active role in terms of acting as a cultural bridge for supporting students' knowledge construction process. The Zone of Proximal Development (ZPD), "the space between what a learner can do without assistance and what a learner can do with adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86), is a good example of what teachers' role is in students' learning process.

Learners confront their understanding in light of what they encounter in the new learning situation (Bada, 2015). Thus, to promote student learning it is necessary to create learning environments that directly expose the learner to the material being studied. The constructivist learning theory is widely used by online learning professionals. This theory stated that learners interpret and encode the information based on their own personal perception and experiences. This means effective learning is achieved when learners are able to attribute a personal meaning or connection to information. That is, "the design of learning environments rather than instructional sequences" (Jonassen, 1994, p.35), and seek to create a learning setting/environment where the learner can engage with (at least a simulated) reality to enhance their understanding of that reality. The theory is used in online learning by giving real-life perspectives to learners by using simulations, such as,

providing learners with something they can relate or emotionally connect with (Sengupta, 2019). Drawing from previous scholars' study on the implications of constructivist learning theory for instructional design, Jonassen (1994) proposed eight constructivist learning environment characteristics concluded that a constructivist learning environment

- should provide multiple representations of reality;

- multiple representations should avoid oversimplification but represent the complexity of the real world;

- emphasize knowledge construction and not knowledge reproduction;

- emphasize that the learners perform in their tasks authentically in a meaningful context rather than the abstract instruction from the instructor;

- real-life settings or case-based studies are different from the traditional predetermined teaching sequences;

- encourage students to have reflection based on their experiences;

- enable context- and content dependent knowledge construction;

- collaborative construction of knowledge through social negotiation, not competition among learners for recognition. (p. 35)

which is a concise summary of the constructivist perspective.

Tam (2000) viewed that "Constructivism provides ideas and principles about learning that have important implications for the construction of technology-supported learning environments" (p. 56). She suggested the constructivist views of learning provide a set of guiding principles to designers and instructors that the constructivist technology-intensive learning environment is to create learner-centered, technology-supported collaborative environments that support reflective and experiential processes.

Social constructivist learning theorists suggested that meaningful learning takes place through community, where to engage students in active and collaborative learning. Learners build their own meaning and understanding under constructivist learning environments from learning resources and circumstances. The learners are the learning focus, and the teachers are expected as the facilitators to provide appropriate supplies during the process of learning. In online education settings, where teachers and learners are distanced in physical proximity, constructivism learning theory suggests a stronger need for the construction of learner-centered learning environments wherein students interact with each other, and their mental states require attention to initiate active learning.

Previous studies (e.g., Boyd et al., 2019; Parker, 2010; Schultz et al., 2008) suggested that in teacher education understanding the social and cultural contexts of students' beliefs based on their schooling experiences is helpful in connecting with students' interests and means of communicating. Quite a few research (e.g., Aguilar & Pérez, 2021; Ananga, 2020; Cecchini, 2021; Jaradat & Ajlouni, 2021; Kawinkoonlasate, 2020; Torres Martín et al., 2021) since COVID-19 pandemic, adopt constructivism learning theory lens to investigate the learner experiences of online learning regarding the shifting from face-to-face physical classroom learning to a fully online learning environment in teacher education and professional development. These studies stress online education needs to consider the design of learning activities, the use of technology to support learner engagement, the facilitation of social interactions and reflection to provide rich, interactive, and learner-centered experiences that promote the construction of knowledge and meaningful learning outcomes.

Wenger's Communities of Practice

Wenger's notion of Communities of Practice (CoPs) has been one of the most widely cited and influential conceptions of learning (Smith et al., 2017). In its original formulation, communities of practice essentially focused on describing "how learning, meaning, and identity within a community can translate into a sustained practice" (Pyrko et al., 2019, p. 482). Wenger et al. (2011) elaborated the concept, defined CoPs as a "learning partnership among people who find it useful to learn from and with each other about a particular domain. They use each other's experience of practice as a learning resource" (p. 9). Thus, Communities of Practice (CoPs) are understood as people, within a group and across groups, interact regularly about real-life problems/topics and negotiate a shared practice (Wenger et al., 2002). Gherardi (2000) suggests the practice as

> both our production of the world and the result of this process. It is always the
> product of specific historical conditions resulting from previous practice and
> transformed into present practice … Practice is a system of activities where
> knowing is not separate from doing. Further, learning is a social and precipitative
> activity rather than merely a cognitive activity. (p. 251)

Therefore, in Communities of Practice (CoPs), practice is seen as a process of learning in a social context, and learning is seen as the impetus of practice (Wenger, 1998). As a part of the CoPs, learners regularly think together through mutually drawing on one another's performances/behaviors in practice related to action/decision-making (Pyrko et al., 2017). An individual learner would gradually develop and enact their membership/attribution within a community though engaging with other individuals. The level of attribution would depend on the degree to which an individual learner interacts meaningfully with

others, as well as various learners' needs, ability, and willingness to interact/practice with others in the community.

   According to Wenger (1998), as people participate in Communities of Practice (CoPs), they express their belonging through engagement, imagination, and alignment. Wenger (1998, as cited in Smith et al., 2017) emphasized that a robust design for learning should involve "interactive technologies, communication facilities, joint tasks, availability of help, and peripherality (indication of engagement); transparency, explanations, reflection, and pushing boundaries (indication of imagination); and common focus, direction, plans, standards, policies, and distribution of authority (indication of alignment)" (p. 214).

   Technology powers Communities of Practice (CoPs) by the internet and online tools. In response to the question *Can a community of practice exist only online?* Wenger-Trayner and Wenger-Trayner (2015) clarified that the "key to a community of practice is the ability of participants to recognize the practitioner in each other and on that basis, to act as learning partners" (para. 1). In this sense, as long as online interactions allow learners to do this in meaningful ways (and by now there is enough evidence that it is possible), then the result is an "online" community of practice. Online tools (see Figure 1) could support communities of practice, and the tools could be varied from one to another in terms of different countries and regions globally.

Figure 1

Tools that Support Communities of Practice
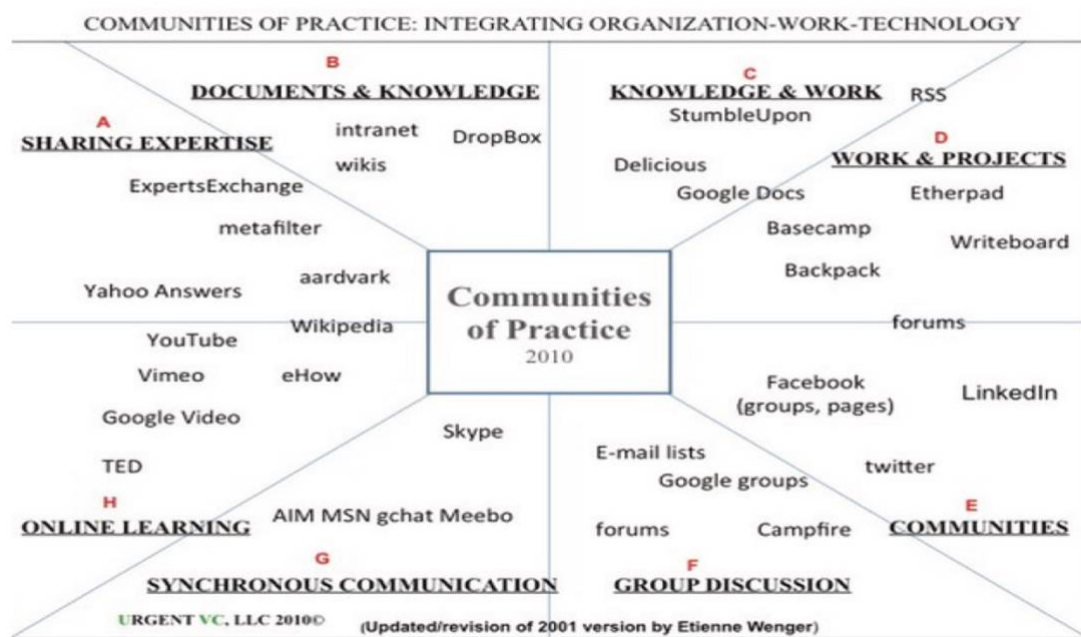
Note. This image was cited from Wenger-Trayner, E., & Wenger-Trayner, B. (2015, June). *An introduction to communities of practice: A brief overview of the concept and its uses.* https://www.wenger-trayner.com/introduction-to-communities-of-practice

The seven key design principles identified by Wenger et al. (2002, as cited in Bates, 2015) for creating effective and self-sustaining communities of practice are as follow:

- **Design for evolution**: ensure that the community can evolve and shift in focus to meet the interests of the participants without moving too far from the common domain of interest.

- **Open a dialogue between inside and outside perspectives**: encourage the introduction and discussion of new perspectives that come or are brought in from outside the community of practice.

- **Encourage and accept different levels of participation**: from the 'core' (most active members), from those who participate regularly but do not take a leading role in active contributions, and from those (likely the majority) who are on the periphery of the community but may become more active participants if the activities or discussions start to engage them more fully.

- **Develop both public and private community spaces**: encourage individual or group activities that are more personal or private as well as the more public general discussions.

- **Focus on value**: attempts should be made explicitly to identify, through feedback and discussion, the contributions that the community most values.

- **Combine familiarity and excitement**: by focusing both on shared, common concerns and perspectives, but also by introducing radical or challenging perspectives for discussion or action.

- **Create a rhythm for the community**: there needs to be a regular schedule of activities or focal points that bring participants together on a regular basis, within the constraints of participants' time and interests. (pp. 155-157)

These key design principles could also serve as a benchmark for an online learning environment. In other words, learners work collectively to increase their knowledge, expand their experience, identify gaps in competence, and solve problems (Wenger-Trayner & Wenger-Trayner, 2015).

Wenger's communities of practice (CoPs) framework provides a conceptual direction for the investigation of online learning environments, within which participants in communities of practice (CoPs) generate knowledge as they interact with each other, share information, experience, insight and advice and help each other solve problems. Studies (e.g., Alawamleh et al., 2022; Borowiec et al., 2021; Jackson & Jones, 2019) since COVID-19 pandemic, sought to understand the extent and the nature of CoPs formulation in the online learning environment. These studies examined how Wenger's communities of practice (CoPs) framework correspond to the ways teaching and learning function in an online environment and showed that CoPs has provided important insights into the process of online teaching and learning in terms of foster collaboration, shared learning, and the development of a sense of belonging among learners.

Community of Inquiry

Another theoretical framework that relates to this study is the community of inquiry (CoI), which was developed during project which ran from 1997 to 2001, entitled *A Study of the Characteristics and Qualities of Text-Based Computer Conferencing for Educational Purposes* (Garrison et al., 2000). The original study created a model of CoI (see Figure 2) comprises of three essential elements of an educational experience: Social presence, Teaching presence and Cognitive presence. The Community of Inquiry (CoI) model describes the process of learning (collaborative-constructivist) through the educational experience that occurs at the intersection of the three essential elements (Koole & Parchoma, 2013).

Figure 2

Community of Inquiry Model
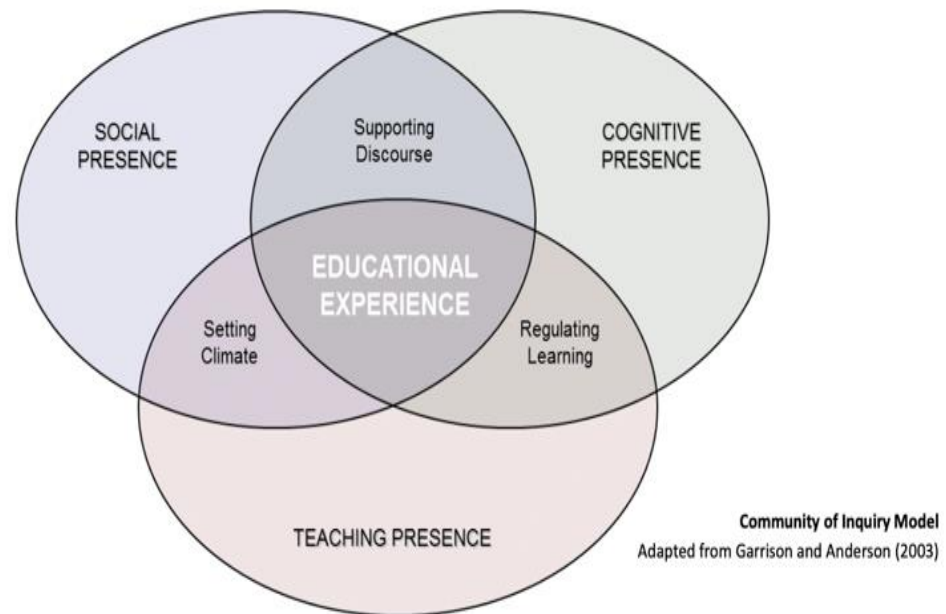
Note. This image was cited from Garrison, D. R. (2016). *E-learning in the 21st century: A community of inquiry framework for research and practice*. Routledge.

Social presence is "the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities" (Garrison, 2009, p. 352). Or in the words of Koole and Parchoma (2013), "social presence is how connected everyone feels while forming interpersonal relationships and a classroom community" (p. 45). In an educational context, social presence is "to confer on the group greater capacity to communicate and collaborate, then the group will work more productively to the extent that group members identify with the group, thus making the group more cohesive" (Rogers & Lea, 2005, p. 153). In terms of practicing, learners should be provided opportunities to get to know each other through self-introduction and interactions focused on the group's common (learning) goals.

Defined as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (Garrison et al., 2001, p. 9), cognitive presence goes to the heart of the community of inquiry (Garrison & Akyol, 2013). The essence of cognitive presence is educational-goal-focused purposeful reflection and discussion. Cognitive presence is operationalized through four phases, which are the phases of the Practical Inquiry Model developed by Garrison and Anderson (2003, as cited in Garrison, 2009):

> The first phase is the recognition and definition of the problem or issue. The second phase is the exploration of the problem or issue through the gathering of relevant information and perspectives through individual searches and discourse. The third phase is making sense of the existing information with the goal to reach resolution through reflection, sharing and critically analyzing the best ideas. The fourth phase is to test the best solution through application either vicariously or directly. (pp. 353-354)

And the application phase catalysts another round of the inquiry process – rethink and refine a better solution.

Teaching presence is defined as "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes" (Anderson et al., 2001, p. 5). Garrison and Arbaugh (2007) suggested that the role of teaching presence is critical in developing and sustaining a collaborative-constructivist learning approach "as a significant determinant of student satisfaction, perceived learning, and sense of community" (p. 163). It integrates the social and cognitive elements that ensures a functioning community of

learners. Teaching presence construct is composed of three categories – design, facilitation and direct instruction (Anderson et al., 2001). Design sets the stage and the potential of the learning experience. Through facilitating various learning activities, teaching presence monitors learning discourse to engage learners. Direct instruction, often found in the formal educational context, refers to approaches such as, providing specific ideas, diagnosing misconceptions, managing conflict, providing a lecture, yet not undermining learners' responsibility for constructing meaning and sharing in the community (Garrison, 2015).

The community of inquiry (CoI) framework recognizes the importance of the environment in shaping the educational experience, which is a collaborative environment founded upon open but purposeful communication, "it is in the overlap of the three presences where the essence of a community of inquiry exists and meaningful collaboration occurs" (Garrison, 2009, p. 352). Garrison et al. (2001) suggested that cognitive presence (i.e., critical, practical inquiry) can be created and supported in an online environment with appropriate teaching and social presence. The quality of online teaching and learning process depends on the consideration of the role of teachers, student interactions, and ways that help students learn through active participation and shared meaning making (Duffy & Kirkley, 2004). Poorly designed online learning environments could result in unsatisfactory educational experiences and in-effective learning.

The community of inquiry (CoI) framework has been widely adopted to study the dynamics of online learning communities (e.g., Carroll, 2013; Rourke et al., 2001; Vaughan et al., 2013). The findings of these studies not only supported the promising

potential of online learning within the process of learning but also suggested fully understanding the impact on students' learning experiences with online learning platforms. The Community of Inquiry (CoI) framework is also widely adopted by researchers worldwide as a framework (e.g., Arsenijević & Andevski, 2022; Caskurlu, 2021; Fiock, 2020; Kim & Gurvitch, 2021; Riaz et al., 2022) to study students' online learning experiences during COVID-19 pandemic, in an effort to better online communities that positively affect the quality of student learning, engagement, and motivation in the online learning environment. Thus, the community of inquiry (CoI) framework could help decipher if the online mode provided a meaningful educational experience (Garrison et al., 2000) for the EFL student teachers majoring in English Education.

Constructivism learning theory, the Community of Practice (CoP) framework, and the Community of Inquiry (CoI) framework offer valuable insights into understanding the Chinese EFL student teachers' online learning experiences and perceptions. By integrating insights from the three framework, this study can gain a comprehensive understanding of their experiences and perceptions in terms of exploring how they reflect on experiences and perceptions of taking an active role during online learning; the collaborative and participatory nature of the online learning community; and the cognitive processes (e.g., critical thinking, reflection), social interactions (e.g., collaboration, discourse) and teaching interventions (e.g., facilitation, feedback) as well as the overall impact of these experiences on their online learning.

Chapter Three: Methods

I adopted a case study approach to understand the experiences of EFL student teachers majoring in English Education taking online classes at a teacher's college in China, Huaxia Normal University (pseudonym), with the COVID-19 lockdown serving as the context. As the primary objective of this case study was to investigate EFL student teachers' experiences and perceptions of online learning, it was imperative to employ a methodology conducive to the collection of qualitative data (Creswell, 2006). I adopted a qualitative research approach for this case study as the research questions necessitated an analysis rooted in participants' own lived experiences and points of view (Denzin & Lincoln, 2011). In addition, a qualitative approach was selected to investigate the research questions for this study for its flexibility and the personal nature of the data (Merriam & Merriam, 2009).

Data collection consisted of two phases: an open-ended response questionnaire followed by focus group interviews to investigate EFL student teachers' experiences and perceptions of online learning. The open-ended response questionnaire data was collected first. Based on the findings from the data collected in phase one, I revised the semi-structured focus group interview protocol to probe for richer information. The details of the revisions of the semi-structured focus group interview protocol is shown in the following *phase two* section of this chapter. The focus group interviews were conducted as the second phase. I analyzed the open-ended responses from the questionnaire data and the interview transcripts to explore the participants' perspectives in depth.

Research Questions

The research questions for this study were:

      1. What are the EFL student teachers' experiences of online learning in China?

      2. How do EFL student teachers perceive their online learning experiences in

        China?

In accordance with the purpose of the current study, sample selection involved recruiting participants from Huaxia Normal University. The timeline as well as the number of participants are listed in Table 1.

Table 1

Timeline, Number of Participants, and Description of Data Analysis

Data Type	Number of Participants	Timetable	Related to Research Questions	Data Analysis
Questionnaire (open-ended questions)	148 (Purposeful sampling)	August 2023. Three weeks Online: Wenjuanxing	RQ 1. What are the EFL student teachers' experiences of online learning in China?	NVivo 14 SPSS 29 Thematic analysis Descriptive statistics
Focus-group interview	12 (Maximum variation sampling)	Mid September 2023. In person.	RQ 2. How do the EFL student teachers perceive their online learning experiences in China?	Thematic analysis

Site and Participants

I used purposeful sampling (Creswell, 2012; Merriam, 2009) to recruit a teacher's college and its EFL student teachers majoring in English Education for this case study. I chose the Huaxia Normal University as the site for this case study because it met the purposeful criteria of large school size, national-level-accredited EFL student teacher program, multiple grades, diverse genders, accessible location, and diverse composition

of students (e.g., multi-ethnic, multi-regional). These criteria ensured the case would be "information rich" (Patton, 2002, p. 242). Huaxia Normal University, organized and supervised by the Ministry of Education of China, is also selected for the national Excellent Legal Talent Education and Training Program and Excellent Teacher Training Program. It is a multi-disciplinary university, which offers 77 undergraduate majors, 25 first-level master's degree programs, and 11 professional master's degree programs, as of Spring 2023. There are 2,185 faculty members and 1,319 full-time teachers. There are 20,749 full-time undergraduates, 3,758 postgraduate students, and 1,100 long-term and short-term international students.

Criteria for inclusion as participants of this research are (a) full-time undergraduate enrolled in the chosen Normal University, (b) participant in the English Education program, and (c) had fully online courses for at least one semester. The most effective approach for recruiting study participants is to receive participation requests from reputable sources (Dillman et al.,2014). To ensure the participation in online learning, recruitment messages were sent to all junior and senior EFL student teachers in the teacher education program, with the Dean of the School of Foreign Languages facilitating the introduction of these messages to their WeChat group. WeChat is a free and widely used social media platform that provides instant messaging services, video/audio calls, as well as banking services. Participants for phase two were recruited through the emails collected through phase one. Dillman et al. (2014) proposed that of the various choices of communication available to researchers, individuals are generally more inclined to engage with and respond to personalized communication efforts. I followed research-based strategies (Phillips et al., 2016; Willis et al., 2013) to recruit

participants in three waves: (a) personalized WeChat announcement, (b) personalized

email with schedules of interview data collection, and (c) personalized follow-up

reminder WeChat messages and emails. I chose participants for focus group interviews in

order to create a maximum variation sample in regard to gender, grade level, and

geographic residence to garner diverse and credible perspectives.

        Huaxia Normal University requests the national English proficiency tests for their

EFL student teachers in completion of the program. That is, the Tests of English Majors

(TEM grade four and grade eight) held by the Minister of Education in China (Zhong,

2015). The TEM tests for the ability of English literacy includes understanding and

conveying information, opinions, and emotions in spoken and written English. EFL

student teachers at Huaxia Normal University attended TEM-4 in junior year and TEM-8

in senior year. Test-takers who passed these tests indicate their ability of English literacy

as well as the mastery of vocabulary at the range of 4,500 to 8,000. Given the pass rate of

the two tests at the chosen university were around 80% and 70% respectively over the

past three years, the vast majority of participants who were recruited to this study are

considered proficient enough in terms of the English language to understand the verbiage

of the questions in the questionnaire.

Phase One

        The first phase of the study aimed to explore Chinese EFL student teachers'

experiences and perspectives regarding online learning. The following section describes

the instrument used and the procedures for the implementation of phase one.

Instruments

      This study used a questionnaire of open-ended questions as the research instrument, in which the questions were broad and required feedback in the respondents' own words instead of stock answers. In other words, it allowed the respondents to elaborate on their points, thus leading to valuable feedback and rich insights (Hennig, 2017). The questionnaire (see Appendix A) comprised eight open-ended questions and four demographic questions, which were designed to investigate EFL student teachers' experiences and perceptions of their online learning. The open-ended response questions in the questionnaire also reflected the adopted theoretical framework: the constructivism learning theory, communities of practice, and community of inquiry. That is, the open-ended response questions explored how the EFL student teachers reflected on experiences and perceptions of taking an active role in constructing their knowledge; the collaborative and participatory nature of the online learning community; and their engagement, social interactions, and instructional support as well as the overall impact of these experiences on their online learning.

      According to Creswell (2012), researchers have the option to assess validity of their protocols ahead of data collection by examining the response process. One technique is to conduct cognitive interviews, which involves interviewing individuals as they fill out the questionnaire to gather insights into their experiences and thoughts. Miller et al. (2014) proposed that cognitive interviews served as a valid check for survey questions through which "various types of question-response problems that would not normally be identified in a traditional survey interview, such as interpretive errors and recall accuracy, are uncovered" (p. 2). In this way, survey researchers identify the survey

respondents' possible meaning and interpretation of survey questions that may or may not deviate from the researcher's intent (Willis, 2015). Thus, a cognitive interview was conducted to examine whether the individual items were clear and whether the overall instrument made sense to the participants. The eight randomly chosen participants from the EFL student teachers WeChat group were asked to fill up the questionnaire and to give feedback and suggestions on how to make the items clearer and more relevant to the student teachers. The participants in the cognitive interview were asked questions, such as, could you please use your own words to repeat the items? How do you understand this term? What does this term mean to you? (Willis, 2005). Based on the participants' feedback, it turned out that there were not any interpretive deviations to the survey questions from the researcher's intent.

From there, research participants were asked to answer the open-ended response questionnaire in their preferred language, either English or Mandarin. The participants were encouraged to answer the questions in their mother language, Mandarin, as language expression is fundamental for in-depth research, and participants may feel comfortable expressing more freely and accurately and providing richer information.

Data Collection Procedures

The open-response data from the questionnaire were collected online via Wenjuanxing, a widely used professional online platform in China that specializes in questionnaire design, data collection, custom reports, survey results analysis, examination, assessment, and voting. The link was sent to the EFL student teachers' WeChat group at the Huaxia Normal University. The link to the questionnaire remained open for participants for three weeks, during which follow-up reminder messages through

WeChat were sent a week after and the second week after to increase the response rate to the questionnaire. Meanwhile, there has long been a gender imbalance, with a higher ratio of female students in normal universities in China (Lan & Xiong, 2018; Yang & Zhao, 2017), thus, the ratio of participants in the case study also presented with a higher ratio of female EFL student teachers. Table 2 showed the demographic information of participants in the open-ended response questionnaire.

Data Analysis

After the questionnaire was conducted, the 148 responses were analyzed using the computational tool software --- IBM SPSS version 29 (for the analysis of statistical data) and NVivo version 14 (to aid in the data management and analysis process), to understand the Chinese EFL student teachers' experiences and perceptions of online learning. NVivo version 14, was also used to query keywords for comparison with manually coded categories and themes but was not used as a primary coding source and was employed primarily for data analysis validation. The researcher took the lead in the research process, with the software serving as a tool for data storage, organization, and validation (Bryant & Charmaz, 2012). Descriptive statistics of results are presented in the forms of tables and narrative in chapter four, including frequency and percentage of the responses to each question in the questionnaire. The results drawn from the analysis of phase one contributed to building an understanding of the EFL student teachers' experiences and perceptions of online learning, as well as the adjustments to the interview protocol of focus group interviews at phase two for a deeper understanding of student teachers' experiences and perceptions of online learning.

Braun et al. (2018) suggested that thematic analysis is particularly useful when looking for subjective information such as a participant's experiences, views, and opinions, which was why it was usually conducted on data derived from, for example, surveys, social media posts, interviews, and conversations. An inductive approach was adopted to thematic analysis to determine the themes. This involved deriving meaning and creating themes from data, that is, to allow themes to be determined by the data – to emerge from the data. In this research, themes were understood as the subject and main idea. Themes were presented in the forms of a phrase, or a word based on the responses.

I invited a coder and practiced intercoder agreement (Creswell & Plano Clark, 2017) in order to increase the credibility of the qualitative results. We decided that coders could code responses for more than one theme, and coders used their best judgment as to whether a response fit into a theme, as the definitions were non-exhaustive. Following the theme development, we each first went through the collected data independently, what Bruan and Clarke (2006) called familiarization, to get a thorough overview of all the data before we started analyzing individual items. This step involved reading through the open response text as a whole, taking initial notes, and creating memos of our coding process in a Jinshan Wendang Drive (compared to Google Drive). Then, we independently coded the first 25 responses to test interrater reliability and establish agreement using these code definitions. These codes provided a condensed overview of the main points and common meanings that recur throughout the data. We compared and discussed our codes and notes to see the extent to which we agreed on the coding of the content (Lavrakas, 2012). Our focus was on a practical improvement of the coding quality, but not on getting to a

standard coefficient. Therefore, we addressed and edited the codes that did not match in terms of definition and word choices to achieve agreement.

We then tested interrater reliability for another 15 responses, at which point the percent agreement was 92% and the theme definitions were therefore assumed to be reliable. After we continued coding the rest of the data. Next, we reviewed the codes created, identified patterns, and started turning codes into themes. After having themes, we reviewed themes to make sure that the themes were useful and accurate representations of the data. This means we returned to the data set and compared the themes against it to see if we missed anything and made changes to make my themes work better. Once we had a final list of themes, we named and defined each of them. In other words, to formulate exactly what we mean by each theme and figure out how it helped us understand the data.

Phase Two

The second phase of the case study was focus group interviews. Interviews permit researchers to get in-depth data regarding the participants' views, voices, and stories of their experiences (Lincoln & Guba, 2000), in this study related to online learning in terms of its influence on learning experiences.

Data Collection Procedures

The semi-structured interview protocol is presented in Appendix B, with three questions removed from the originally proposed protocol, and two questions added to elaborate on the findings from phase one. Specifically, questions number five, eight, and sub-question two a. were removed as the findings of phase one provided rich information on the EFL student teachers' online learning in terms of the obstacles and challenges, as

well as the interactions among peers, instructors, and related staff. Two sub-questions

were added to interview question number two for further understanding of the EFL

student teachers' experiences of online learning in terms of active learning and learning

autonomy, as quite a few responses to this aspect in the open-ended response

questionnaire (phase one) either only provided "Yes" or "No" answers or were brief

without elaboration.

Malterud (2016) suggested that there is no straightforward answer to sample size

in qualitative research, and there is no definitive answer for addressing issues of sample

size in thematic analysis. Coding reliability can be achieved in as few as 12 or even six

interviews in some circumstances (Guest et al., 2006). Twelve participants for the focus

group interview were recruited from 42 participants who consented to participate in phase

one. The participants were selected with a consideration of a maximum variation sample

to include participants from diverse gender identities, geographic locations of residence

during online learning, and perspectives towards online learning. I reached out

individually through the email addresses they provided in response to the last question of

the questionnaire. The participants were grouped depending on their availability and

physical location. As it was during the semester when the focus group interviews were

taking place, all the participants in the focus group interviews were on campus. I

conducted the semi-structured focus group interviews in two groups with six participants

in each group. Both rounds of focus group interviews were conducted in person on a

weekend in the study rooms in the university library, with one group in the morning and

the other in the afternoon. Each focus group interview lasted for approximately 80

minutes. The focus group interviews were audio recorded. For high data accuracy rates

that provide reliable and reasonably accurate transcriptions, the focus group interviews

were transcribed through professional transcription software first, and then I read through

the transcriptions while listening to the audio recordings to make corrections. Table 3

shows the demographic information of participants in the focus group interview (phase

two).

Data Analysis

Complementary to the collected data from the open-ended response questionnaire,

the collected data from focus group interviews were also analyzed through thematic

analysis to determine the themes (Braun & Clarke, 2006). Thematic analysis remains one

of the most popular qualitative analysis techniques that studies patterns of meaning

(Guest et al., 2012). In other words, it is about analyzing the themes within the data set to

identify meaning.

What's more, I told the participants that they can choose to reflect their opinions

in both English and Mandarin, and I presented the interview questions in both English

and Mandarin. All participants in the focus group interviews reflected their opinions in

Mandarin as they felt comfortable in expressing their opinions in their native language

and allowed them to communicate more freely and accurately, resulting in the provision

of comprehensive information in their native language (Mandarin).

I analyzed the collected data in Mandarin and implemented the member checking

approach in the same language. I translated the themes and excerpts in English and

reported in chapter four.

Trustworthiness and Ethical Considerations

Over the years, various researchers have used alternative terms, including trustworthiness, authenticity, validity, and reliability, to describe measures taken to increase the rigor of research. In qualitative research, Lincoln and Guba (1985) used the term trustworthiness or authenticity to describe measures taken for rigor, similar to the use of validity and reliability in quantitative research. To enhance trustworthiness, this study followed qualitative inquiry approaches, such as member checking, triangulation, and reporting disconfirming evidence (Creswell & Plano Clark, 2017). That is, I involved drawing evidence from multiple participants to support findings, and provided an in-depth description of the data, including using direct quotes to illustrate the results, and disconfirming evidence to ensure the accuracy of data analysis.

Positionality, defined by Coghlan and Brydon-Miller (2014) as "the stance or positioning of the researcher in relation to the social and political context of the study—the community, the organization or the participant group" (p. 627), can influence the research process. Although none of the participants were in any of my classes, I was a faculty member of the program the participants were enrolled in. I repeated and reassured the EFL student teachers during the recruitment and data collection that their participation in this research was voluntary, their decision on participation or withdrawal would not have any effect on their grades in their current or future academic courses or on their relationship with the researcher and the other faculty members. Any personal identifiers would be removed, and all collected data and information would be treated confidentially for research use only. The researcher's background may shape biases in the interpretation of data collected during the qualitative phase. As the prime investigator of

this study, I am native Chinese and multilingual in Mandarin and English. To minimize

biases, the responses to the open-ended questions in the questionnaire and interview

transcripts were analyzed word by word, and peer-coding sessions were conducted with

one more coder to increase reliability (Creswell & Plano Clark, 2017). An audit trail was

kept for data translation, and a native English speaker was invited to proofread to ensure

reliability in the case study. Specifically, counter-interpretations to minimize bias by

inviting a native English-speaking instructor in the Department of Translation in the

Huaxia Normal University, who also speaks Mandarin and holds HSK-9 (the advanced

level of Chinese Proficiency Test) certificate.

Many researchers advocate that ethical considerations are indispensable aspects of

doing research (Cohen et al., 2007; Creswell, 2012; Neuman, 2011). Merriam (2009)

suggested that ensuring trustworthiness in research involves conducting the research in an

ethical manner. Also, "Individuals who participate in a study have certain rights"

(Creswell, 2012, p. 23), that is, ethical concerns related to the protection of participants'

privacy as well as other rights. Participants may not be fully aware of research ethics;

however, as a researcher I must attend to ethical concerns in the whole process of the

research (Creswell, 2012). In order to abide by research ethics, I followed UMSL

Institutional Review Board protocol to protect the rights and privacy of the participants.

No direct identifiers were used in the questionnaires or in the focus group interview

transcripts. Furthermore, pseudonyms were given to the university, Huaxia Normal

University, and participants of the focus group interviews (speaker #1, speaker #2…) for

confidentiality protection purposes. I kept the data confidential by way of setting

passwords on the portable storage device where the collected data was stored. The laptop

was disconnected from the internet access when the portable storage device was plugged in for data analysis. Stressed to the participants that they were told to be able to terminate their participation at any time during the recruitment and the data collection phases, the survey and interviews were confidential and anonymous, and information about participants' participation in the interviews and questionnaire or withdrawal from participation would not influence their grades of any kind at school. This information was also included in the recruitment message. All participants were informed about the study and signed consent forms (see Appendix C). Each participant who agreed to participate completed a consent statement of each phase in Wenjuanxing before continuing to the open-ended response questionnaire and the focus group interviews. This case study was determined exempt by the Institutional Review Board at the University of Missouri- St. Louis (Project #2031226, Review #397823).

Chapter Four: Results and Findings

During the first phase of data collection, 148 out of 198 student teachers

responded to the survey (see Table 2). Participants were asked to answer the open-ended

response questionnaire in their preferred language, either English or Mandarin, to

encourage the participants to answer more freely and to collect more accurate and rich

information. The focus group interviews were conducted in Mandarin for the same

purpose. Approximately 3.4% ($n = 5$) out of the total responses to the phase one

questionnaire were in English and the rest were in Mandarin. Of the 148 respondents, 12

participants participated in the focus group interviews and these responses from both

phases are examined in this case study. The majority of the respondents were female ($n =$

138, 93.2%). Approximately 6.4% ($n = 11$) of respondents had *online classes during*

COVID-19 pandemic lockdown for one semester, 41.9% ($n = 62$) had it for two

semesters, just over half of the respondents (50.7%, n = 75) had it for more than two

semesters. The majority of respondents (60.2%, $n = 89$) had *online classes during the*

COVID-19 pandemic lockdown in *the urban setting as the primary place of residence*,

followed by the suburban setting (20.9%, $n = 31$) and the rural setting (18.9%, $n = 28$).

Approximately 54.0% ($n = 80$) of respondents reported having both synchronous and

asynchronous modes of the online classes during the COVID-19 pandemic lockdown,

followed by 44.6% ($n =66$) of respondents had only synchronous modes, while the

remaining 1.4% ($n = 2$) had asynchronous mode only.

Table 2

Demographic Information of Participants of the Questionnaire (N = 148)

Demographic Information	Frequency	Percentage

Gender

Female	138	93.2%
Male	10	6.8%

Number of semesters for online classes during COVID-19 lockdown

One semester	11	7.4%
Two semesters	62	41.9%
More than two semesters	75	50.7%

The geographical location of the primary place of residence for the online classes during the COVID-19 pandemic lockdown

Urban	89	60.2%
Suburban	31	20.9%
Rural	28	18.9%

Modes of the online classes during the COVID-19 lockdown

Synchronous	66	44.6%
Asynchronous	2	1.4%
Both	80	54.0%

Twelve participants of the focus group interview were recruited from 32 participants who consented to participate in phase two (see Table 3). The participants were selected with a consideration of a maximum variation sample to include participants from different gender identities, geographic locations, and perspectives towards online learning.

Table 3

Demographic Information of Participants of the Focus Group Interviews (N = 12)

Demographic Information	Frequency
Gender	
Female	6
Male	6
Number of semesters for online classes during COVID-19 lockdown	
One semester	2
Two semesters	3
More than two semesters	7
The geographical location of the primary place of residence for the online classes during the COVID-19 pandemic lockdown	
Urban	4
Suburban	4
Rural	4
Modes of the online classes during the COVID-19 lockdown	
Synchronous	2
Asynchronous	2
Both	8

The thematic analysis of the open-ended response questionnaire and the transcripts of the focus group interviews revealed four themes: learner autonomy, digital skills, Internet connectivity, and interactivity. Table 4 shows the themes and the definitions. In addition, the numbers and percentages that appear in the table and the following sections are the results of the questionnaire from phase one.

As the COVID-19 pandemic lockdowns in China were carried out at the regional level depending on the extent of the outbreak, one community/campus could have had

several lockdowns and re-openings in between. That is why the participants' responses

may use wording such as "I had my second lockdown on campus and I didn't have a

laptop with me," "I had a lockdown at my grandparents," and "I had my first lockdown at

home with my parents."

Table 4

Overview of Main Themes and Definitions

Main Themes	Definitions	Sub-themes	Percentage of participants coded with sub-theme
Learner Autonomy	The EFL student teachers' experiences of taking an active role in their own learning.	Need for time management	28.4%
		Need for self-discipline	53.4%
		Information-rich connectivity	85.5%
		Flexibility as affordance	93.9%
		Helpful peer support/ cooperation	41.9%
		Available instructor support	72.3%
Digital Skills	The EFL student teachers' experiences of adopting technology to promote learning.	Online tools	100%
		Online resources evaluation	45.3%
		Desire for technical support	7.4%
The Internet Connectivity	The availability/quality of the internet access (e.g., broadband connections, and Wi-Fi), and the devices (e.g., PC, tablets, laptop, and	Internet access issue	45.9%
		Devices available	100%

		mobile phones) that enabled online learning.	Efficiency of learning with high speed Internet	83.1%
Interactivity	EFL student teachers' communication in online learning through embedded interactive features of the online environment as classified by the Community of Inquiry theory.	Student-content	100%
		Student-faculty	100%
		Student-student	100%
		Tech-afforded collaborative activities	66.2%

Note. The sum of percentages is greater than 100%, as responses could be coded into more than one category. Percentage of participants coded with sub-theme refers to the percentage of the number of participants out of all participants who were coded with a certain sub-theme in the questionnaire.

Learner Autonomy

This theme comprised the EFL student teachers' experiences of taking an active role in their own learning in terms of information-rich connectivity, flexibility as affordance, need for time management, need for self-discipline, helpful peer support/cooperation, and available instructor support. Each sub-theme is explained and reported with numbers and percentages, as well as excerpts from the questionnaire and the interview transcripts.

Need for Time Management

Participants agonized over procrastination due to misuse of time and drifting away from learning focus due to internet surfing because they had more independence during online classes. For a typical in-person course, students would have clock-in software to motivate against procrastination, teacher oversight to mitigate loss of focus, and more structured learning activities with defined time constraints.

Forty-two participants in the questionnaire (28.4%, $n = 42$) mentioned their experiences with time management during online learning. All 42 responses reflected

they had been suffering in varying degrees from procrastination and distraction. Excerpts

of the responses related to time management from the questionnaire responses included "I

often lose time checking information online for the assignments because I get distracted

by online surfing, it could be an hour or two before I realized what I was online for,"

"When it comes to my own learning plan, like preparing for the Test of English Major

grade four (TEM-4), I'd lose my focus as it is not due any time soon, and I was working

all by myself," and "often, I found I couldn't help delaying doing the homework when I

really should've done them earlier. As a result, I ended up staying up late and rushing to

meet the deadline because of my delay. And my grades were not good." These excerpts

reflected that the participants needed help with the ability of time management when

working independently after class. Some participants may be able to set their own

learning goals (e.g., preparing for TEM-4; complete assignments), however, participants

reflected that their procrastination and distraction from their online learning led them to

either rushing to finishing the assignments or spending too much time on an assignment

and neglecting other assignments.

> From the focus group interviews, speaker # 6 reflected,
>
> I often either spent a long time on one assignment while there were several more
>
> due by the same week or lost track of time when I was online. I mean, I started
>
> from searching for resources and materials online for assignments, but ended up
>
> finding myself had been reading notifications from social media, such as 小红书
>
> (Xiaohongshu, compare to Tik Tok) for an hour or more. I can totally get
>
> distracted. If it were not the case of online class, I could have teachers, peers to
>
> pull me back. And you know, when you Baidu-ed (compare to Google-ed) a topic

on the Baidu Scholar, thousands of related articles will show up, and I found so

many are useful and I wanted to add to my own assignments, I kept reading the

articles and picked out good sentences and ideas, ended up spending a lot of time

on this, then got exhausted and didn't have enough time for other homework.

Speaker 6 mentions distractions were caused not only by non-school related notifications

but also from spending so much time on one assignment that there was not enough time

for the other assignments.

Speaker # 9 from the focus group interview also shared that online learning was

challenging in terms of time management,

I once mentioned to my teacher during the online office hours with her about my

issues with time management. Often, I lose track of time on the internet surfing

and feel guilty that I should've spent the hours on studying. My teacher

recommended that I use time management apps to arrange my time, and make

sure to have time slots for internet surfing (giggling) because it is totally

necessary. I found 番茄 ToDo, and I liked it. It popped up on the screen to remind

me of the time for the next arrangement, and because I knew it would remind me

of my next schedule, I took my time in internet surfing, and didn't feel any guilt.

It seems that speaker # 9 asked for teacher's help when facing time management

challenges and found recommended online time management apps helpful with dividing

time between different subjects learning/assignments for working independently after

class. This indicates that he may lack time management skills and would rely on the

teacher's guidance on optimizing the use of time, which could also be the case for his

peer learners in China.

It should be pointed out that the goal of secondary education of most of Chinese students is to go on for higher education, which means their learning experience basically follows a school-specific schedule (e.g., curriculum and class schedule), which also includes self-study sessions at school, usually scheduled in the early or late afternoons (varies from school to school) for several 45-minutes sessions with 10 minutes break between sessions that lasts until 6.00 pm. Some senior high schools also schedule evening classes after that that last until 9.00 pm. Many students are also scheduled for cram school on weekends by their parents. This means most Chinese students are accustomed to a set schedule before higher education level. This could explain the reported participants' negative experiences of time management with their online learning. Participants reflected procrastination without real-time prompting from teachers, online group discussion room time reminder sets, and structured in-class group/individual activities.

Need for Self-Discipline

The questionnaire responses (53.4%, $n = 79$) indicated self-discipline as the top one challenge for learning in the online environment (e.g., distractions from notifications of social media/websites, online games). Excerpts of the responses related to this from the questionnaire include "I couldn't help but to open browsers for videos or novels during the online class, and missed the teacher's lecture," "There have been instances of insufficient engagement of the online classes. I was drawn to online games during," and "I'd checked the social media every now and then while having the classes online, it was a click away, I couldn't help it." These excerpts indicated that online learning demands

self-discipline of the Chinese EFL student teachers to independently manage their study

and stay motivated.

Speaker # 12 shared the online learning experience and reflected that she could

use reminders from others, such as teachers, to pull her out of online distractions every

now and then to get back on track to learning,

I had online classes in both synchronous and asynchronous modes. I prefer the

synchronous ones, because at least in this case the teacher would call names to

answer the questions, which would pull me out of online distractions, you know,

the internet surfing. I'm sorry, but I found it hard to stay focused when there were

so many other more interesting things online and it only caused a click of the

mouse. And it took me a longer time to study in asynchronous mode for the same

reason, you know, just like the moments you were reaching to the phone for a

thing, and saw the notifications and started reading them, and only it could be an

hour when you remembered what you were reaching the phone for.

Speaker # 12 expressed a preference for synchronous over asynchronous mode,

emphasizing the teacher should provide real-time reminders to avoid potential online

distractions, such as social media. These distractions can divert attention from

educational content, adversely affecting overall focus and engagement during

independent study sessions.

Echoing Speaker # 12, Speaker # 3 also reflected the self-discipline as a challenge

during her online learning,

I experienced two lockdowns, both at home. The internet was super slow, so

basically, I had the asynchronous mode for online learning. Although I kept close

interactions with the teachers and peers via WeChat messages, emails as well as

Xuexitong (Canvas), you know I suffered the same trouble you had (looked at

Speaker # 12). I often was distracted by the social media notifications, you know,

one notification led to another, I just kept surfing them and it was a waste of time,

indeed. Often took an hour or more for me to go back to study.

Speaker #3 discussed these sentiments, noting that online learning is prone to such

distractions. In her case, social media tends to draw her attention away from educational

content and significantly impacts her focus, particularly when in asynchronous mode.

Online learning offers the Chinese EFL student teachers flexibility and

accessibility and enhances the practicality and efficiency of teaching and learning

processes. Meanwhile, the independent nature of online learning may require a high level

of self-discipline, which the Chinese EFL student teachers reflected are challenging

during online learning. They reflected low self-discipline and impacted the effectiveness

of the learning process during online learning. This indicates a need to teach discipline to

the Chinese EFL student teachers for online learning and prepare them with this

knowledge for their future teaching life.

Time management and self-discipline are often interconnected, and

complementary, as effective time management often requires self-discipline to follow

through on plans and avoid procrastination. Similarly, self-discipline can be strengthened

through the practice of managing time effectively and prioritizing tasks. On the other

hand, time management focuses on managing time effectively and efficiently, self-

discipline involves controlling one's behavior and mindset to stay focused and committed

to goals. I present the findings relating to this in two sub-themes, emphasizing the

necessity for Chinese EFL teacher education programs to both cultivate student teachers

with skills of time management and self-discipline, which enhance efficiency and

productivity in academic learning, and equip them with the knowledge to teach these

aspects effectively for their future teaching careers.

Information-rich Connectivity

In addition, participants shared about distraction from internet surfing both related

to and not related to learning activities when there was no class schedule. There were

85.8% (n = 127) of the total 148 responses who mentioned that the internet-based online

environment afforded a large quantity of content and information in various forms. The

Chinese EFL student teachers appreciated the information available at their fingertips;

however, at the same time, the information-rich online environment could be distracting

at the same time.

On one hand, responses to the questionnaires also showed that the internet-based

online environment afforded a large quantity of content and information in various forms.

Excerpts of the responses related to this from the questionnaire included "Baidu-ed with

key words, internet never failed me with the up-to-date and large amount of relative

information, I was never at a lack of ideas with the information available online," "Online

resources are abundant, and with various forms available, I can choose to watch video

clips if I was not feeling like reading the articles," and "There are plenty of video clips

online that helped me with grammar learning, there were always alternative video on

particular grammar points if one did not make sense to me." These excerpts showed that

the information-rich nature of online learning not only broadened the scope of available

resources but also empowered the EFL student teachers with the tools and materials necessary for a comprehensive and up-to-date educational experience.

Speaker # 1 from a focus group interview reflected that the online mode helped with promoting learning in terms of having abundant learning materials available,

> The obvious advantage I found was that the resources are very rich online. I once searched templates for my teaching design/plan assignment. Hundreds of links for lesson plan articles as well as websites for lesson plan templates showed up. I Just switched to another website if this one was not for free. It's way much more available learning materials and easily accessible than collecting materials offline.

Speaker # 1 found online learning provided learners with diverse and comprehensive educational materials to enhance their understanding and engagement with the subject matter.

Echoing Speaker # 1, Speaker # 4 stated that the online mode promoted learning in terms of having large amount of information and materials,

> Yes, I Baidu-ed (compared to Google) for the pronunciation class videos to refer to for my teaching plan presenting assignment. There were plenty of video clips available online. I added web-based game activities to my teaching plan after watching several videos as teachers in those videos reflected that web-based games engage pupils as they are grown with the internet and e-devices.

Speaker # 4 reflected that online learning offers a wealth of information-rich resources, including web-based game activities and videos.

On the other hand, the questionnaire responses also showed that the information-rich online environment could be distracting for learning in the online environment.

Excerpts of the responses related to this from the questionnaire and focus group

interviews show the need for self-discipline sessions. They also revealed instances of

internet surfing distractions, whether related to learning activities during online classes or

occurring outside of scheduled class times. Speaker # 12 preferred synchronous to

asynchronous mode, as the teacher was able to help with real-time reminding her of the

potential online distractions, such as social media, which can pull the attention away from

educational content and impact the overall focus and engagement during independent

study sessions. Echoing Speaker # 12, Speaker # 3 also reflected that online learning can

be susceptible to online distractions. It seems social media diverted her attention away

from educational content and impacted her focus, especially under asynchronous mode.

The internet is a vast resource that offers a wide range of information and tools

for the Chinese EFL student teachers' online learning, meanwhile, internet distractions

can be a common challenge for them and affect productivity and focus. It may demand a

high level of self-discipline to resist distractions and overcome procrastination with the

skills of time management (e.g., the use of tools and techniques) to plan and organize

learning activities that the Chinese EFL student teachers to optimize learning

productivity.

Flexibility as Affordance

The questionnaire responses (93.9%, n= 139) showed that flexibility (e.g., time

and space, real-time communication, and modes) rated the highest advantage of the

online mode in promoting learning. Excerpts of the responses related to flexibility from

the questionnaire included "I can access to and watch the playback of the class video any

time I need to," "It is convenient to get access to the learning materials regardless of

geographical restrictions. I can review and revisit materials as needed at any time," "I have more control of time arrangement, especially for the case of the asynchronous classes. I can create my own study schedule as I can access course materials, lectures, and assignments at any time." The Chinese EFL student teachers appreciated the flexibility of online learning as it provided freedom to tailor their education to fit their individual needs, schedules, and preferences.

Speaker # 1 from focus interviews also reflected flexibility as an advantage of the online mode,

The most significant advantage was that I can connect with more peers under the online mode without restrictions of time and space. I mean WeChat messages and video conferences connect me with the teachers and peers, and we didn't have to wait until everyone stepped into the classrooms like when we were face-to-face. It's obvious, we are free of physical boundaries under the online mode to attend a class or a team discussion.

Through this quote, speaker # 1 explained that online learning promoted learning in terms of real-time communication that transcended traditional constraints of time and space.

Also, speaker # 12 appreciated the flexibility of the online learning,

The most significant advantage was that I had a high degree of freedom, I could have classes in both synonymous and asynchronous modes online, compared with traditional face-to-face classes, I had more flexibility in schedule. And it's obvious I didn't have to commute to class, which saves time and may be costs too.

Speaker # 12, as well, found that online learning promoted learning in terms of offering flexibility for her to access educational content and participate in courses from virtually anywhere and at her own pace.

These excerpts indicated that EFL student teachers found the flexibility afforded by online learning, such as scheduling, location independence, free accessibility, as well as creating a learning environment that suited their comfort and productivity.

Helpful Peer Support and Cooperation

Responses indicated that EFL student teachers benefited from peer support/cooperation through taking an active role in learning out of a sense of being responsible for others, sharing information, and forming learning partners. Participants in the questionnaire (41.9%, n= 62) mentioned their experiences of online learning in terms of peer support/cooperation.

Excerpts of the responses related to peer support/cooperation from the questionnaire included "The teacher graded the whole team with the same grade, I couldn't be the one who dragged down the group score. So, I used all the resources at hand to help our team achieve a good score," "I would set up an alarm for the scheduled team meeting online. It was teamwork, I could not let the team wait on me," and " For the group assignments, the first thing we did was to set up the timeline. I was never late for the group meeting or to complete my parts, it was teamwork, I can not be the one who made the team miss the due." These excerpts indicated that the Chinese EFL student teachers were being proactive in taking responsibilities in terms of self-directing their collaborative learning regarding labor division, attending group meetings on time, and completing their own parts for the group work.

Speaker # 5 from the focus group interviews shared his experiences of peer

support /cooperation,

> Our teacher in the reading class let us do presentations. She only gave a broad
>
> topic, like social issues, and asked us to pick out our own topics to present to the
>
> class. Our team worked together to decide on the topics. We chose to learn the
>
> class opinions/experiences on the time issue (early mornings and late evenings) of
>
> public square dancing as we all have suffered from this issue. And we divided the
>
> work, like who took charge of the design of the slides, and the interactive
>
> activities with the class. Also, we had several online meetings, each of us
>
> proposed ideas and suggestions because this was a group work, we were gonna be
>
> scored as a whole, no one wanted to be held back.

Speaker #5 seems to handle labor divisions successfully for he wanted a good score for

the team. She also found that her peers on the team also presented a high degree of

collaboration for group activities (e.g., group meetings, brainstorming topic procedures,

visual display). This indicated them taking an active role in learning out of a sense of

being responsible for others.

In addition, excerpts of the responses related to peer support and cooperation from

the questionnaire included "We exchanged ideas on how to proceed on the assignments,

and updated the team with the found materials, sometimes, discussed/debated on which

ones to include in the final work when there were multiple options," and "We scheduled

online meetings for updating the progress to the team on the group assignment. We also

had a WeChat group where we shared the materials we each found. I also reached out to

the members when I was stuck on my part." Excerpts of the responses showed that the

Chinese EFL student teachers were taking an active role in group activities in terms of actively reaching out to others as well as sharing information.

Speaker # 2 from the focus group interview stated her experiences,

I could manage to stay focused and prioritized on the group homework because there were others on the team waiting for my part to complete the final work and we needed to meet the due. I reached out to my classmates to see if they had better ideas and resources when I was out of ideas on my part. I sent 'cry for help' messages to the WeChat group chatting of our team, stated that I was out of ideas on my part, and would appreciate their help, and added asking for help emojis, many. My team members came for help through providing resources they found. I did the same to my team members when they needed a hand. I once helped with a team member's part, as she found summarizing the un-subtitled English video challenging and we did it together, it was a collective wisdom, (giggling).

Speaker # 2 seemed motivated to complete the group work well because she felt accountable to the other team members. She also found that she could both receive help from and provide help to team members, providing a sense of reciprocity.

Excerpts of the responses related to peer support/cooperation from the questionnaire included "I contacted my roommates, and we studied together online. We exchanged ideas on homework. Even when we did not do much talking, with the camera on, it still felt good to be there for each other." "Me and my bestie studied the same major at different universities. We studied together online on the weekends, during which we shared learning materials from each other's classes." These excerpts indicated that the Chinese EFL student teachers were taking an active role in group activities in terms of

actively reaching out to others to study together as a team when they shared a mutual

interest.

Speaker # 11 shared her experiences of peer support/collaboration in terms of

actively forming learning partners to promote her own learning. She stated,

I want to work at a junior high school as an English teacher after graduation, for

which a teacher certificate is required. Although it is not a graduation

requirement, it's a requirement for my ultimate goal. When I learned that one of

my roommates shared the same goal as mine, she is a math major, we became

teacher certificate exam study partners. We, respectively, learned about the exam,

and shared our findings. We found out that some tests are general regardless of

the subjects to teach. Then, we searched for MOOCs for the teacher certificate

tests and enrolled in some free ones. We studied together online once a week. We

were each other's reminder when one side lost her focus.

Speaker # 11 took an active role in accomplishing her learning goals by getting herself a

study partner. During the process of learning, they collaborated for their mutual goal.

Responses showed that the Chinese EFL student teachers reflected experiences of

taking an active role in their online learning in terms of collaboration and participation of

the online learning community. Specifically, they were active in forms of division of

labor, brainstorming for group activities, attending group meetings on time, completing

their own parts for the group work, as well as sharing materials/information. Meanwhile,

it should be pointed out that collectivism, to a certain extent, encouraged the Chinese

EFL student teachers to strive for their own tasks for the benefit of the group when doing

the group assignments as well as being proactive in making suggestions and proposing solutions.

Available Instructor Support

Responses indicated that the teacher's support/guidance, such as providing informational feedback, offering choices for web-based in/after-class activities and assignments, and offering suggestions to help students find suitable learning strategies encouraged EFL student teachers to take an active role in their own learning.

Participants in the questionnaire (72.3%, n= 107) mentioned their experiences with teacher support during online learning to promote their own learning. Excerpts of the responses related to instructor support from the questionnaire includes "Our teacher of writing class let us pose our learning goals to the discussion panel. I never thought about having my own goals. This teacher reminded me to think about my own learning goals and plan to reach them." "My teacher of writing class provided detailed rubrics for every writing assignment. I liked it, because this helped with how to organize my thoughts and writing," "My reading class teacher teamed up the class, and asked each team to propose a reading piece, led the class to appreciate the piece, and organized class activities. We used a discussion board and *Kaoshixing* platform for scramble games," "TEM-4 for English majors is part of the graduation requirements. My teacher asked us to draft our own detailed plan to reach the goal. I drafted one, followed it, and I passed the exam last semester," and "Our teacher of the listening class organized group discussions on the content of the assigned listening passage. She also suggested 有道词典 (Youdaocidian, an online e-dictionary) to aid our English expression in the class." In Chinese culture, teachers are traditionally held in high regard and are seen as influential

figures in shaping the lives of students. That is, students tend to be more likely to follow teachers' guidance. These excerpts show that participants were able to take an active role in their own learning during online learning with instructor's support in terms of providing informational feedback, offering choices for web-based in/after-class activities and assignments, offering suggestions to help students find suitable learning strategies.

Excerpts of the responses from the focus group interviews also reflected that instructor's support was helpful with EFL student teachers taking an active role in their own learning.

Speaker # 5 shared his experiences of benefiting from the teacher's office hours during which the instructor offered suggestions to help him find suitable learning strategies.

My teacher in the intensive reading class used to offer office hours at her office (a teacher in the intensive reading class often acted as headteacher in this normal university). When it was all classes online, she moved the office hours online. We made appointments with her by sending her WeChat messages and used WeChat calls (compared to Facetime) to talk with us. She helped me with structural analysis strategies, rather than offering strategies directly, she first asked me what help I expected in terms of structural analysis and pushed me to self-reflect as detailed as possible. And also asked my successful experiences in structure analysis. Through which I figured out my strengths and weaknesses. Then she suggested several learning resources, books about word building, online videos on text structures.

Rather than offering specific learning strategies directly, speaker # 5's intensive reading class teacher prompted her to do a self-reflection on specific help needed. Speaker # 5

was able to examine her own strengths and weaknesses and figured out learning

strategies of her own. Additionally, her teacher recommended various learning resources,

including books on word building and online videos on text structures.

Speaker # 12 shared her experiences of benefiting from the teacher's support in

terms of providing informational feedback.

We adopted 金山文档 (compared to Google Drive) for the Listening and retelling

class. For example, we had dictation assignments, and the teacher asked us to take

a pic of our work, and write down reflections, questions or help that we may need,

if any, regarding this assignment and upload them to the folder named by our

names. I once asked questions because I found it very difficult to follow the

sentence while writing them down. My teacher left detailed feedback the next day

in my folder, suggesting that I should reflect if it was because I was busy writing

the long words or struggling with figuring out the words that didn't sound familiar

that I didn't know how to spell. And provided vocabulary learning websites, and

book of interpretation note taking techniques. But she strongly suggested that I

develop my own abbreviation mode, and I did, now it makes more sense to me

while doing the dictation.

Speaker # 12 was able to improve her English dictation skills under the help of the

teacher's detailed feedback on her work and inquiry. The teacher suggested strategies

such as creating a personal abbreviation mode.

These excerpts indicate that EFL student teachers, to a certain extent, were taking

an active role in their learning process through peer support/cooperation and instructor

support.

Meanwhile, the reflected relatively poor pace/time management skills for learning online call for further guidance (e.g., setting up learning goals, periodical achievement assessment) through integrating technologies.

Digital Skills

This theme comprised the Chinese EFL student teachers' experiences of using technology to promote learning. There are three revealed aspects: online tools, online resources evaluation, and desire for technical support. Each sub-theme is explained and reported with numbers and percentages, as well as excerpts from the questionnaire and the interview scripts.

Online Tools

Participants mentioned their experiences in the online class in terms of using online tools (e.g., apps, info. searching, mirroring) to promote learning. All participants in the questionnaire (100%, $n = 148$) mentioned their experiences in the online class in terms of using online tools, of which, approximately 62.2% ($n = 92$) responses mentioned they were able to adopt more than three kinds of online tools for their learning. Responses related to online tools from the focus group interviews also showed that EFL student teachers were able to adopt multiple online tools to promote their learning. Tools discussed in the questionnaire and focus groups included learning and teaching platforms, such as 钉钉 (Dingding), 雨课堂 (Yuketang) and 学习通 (Xuexitong) (all compare to Canvas); online office software, such as 金山文档 (Jinshanwendang, compare to Google Drive); searching engine, such as 百度学术 (Baidu Xueshu, compare to Google Scholar), 百度视频 (Baidu Shipin, compare to Youtube), 知乎 (Zhihu, compare to Quora); online apps, such as 腾讯会议 (Tengxun huiyi, compare to Zoom), WeChat, OICQ, email, e-

dictionary; social media, such as 小红书 (Xiaohongshu, compare to Tik Tok); and used

VPN to get access to foreign resources for academic purposes, such as websites of

Google Scholar, VOA, and BBC.

Excerpts of the responses related to using online tools from the questionnaire

include "I use Xiaohongshu for English learning. I followed two native English-speaking

teachers on it and learned English with them. They each have more than 32,000

followers. They each did live streaming twice a week, and did Q & A," "I baidu-ed for

vocabulary learning apps, and I chose '不背单词' and '百词斩' because they were the top-

rated ones. It turned out they were good and easy to use," "I found TED talk helpful with

my English language learning, and Tengxun Huiyi was how I connect to my classmates

for teamwork."

Online Resources Evaluation

Participants mentioned their experiences in the online class in searching and

choosing online resources (e.g., comparing online info/resources, identifying references,

app/tool choices), and also expressed that online resources evaluation can be challenging.

Sixty-seven participants in the questionnaire (45.3%, n=67) mentioned their challenge, "I

searched for English listening apps in the App Store and chose the ones with the highest

download number, I think this indicates an app of high quality. It may not always be the

case, but it's my way," and "There are so many apps available, I couldn't figure out

which are the good ones. I just asked my classmates, and friends for the apps they are

using and found good, and I downloaded what they recommended." These excerpts

showed that the Chinese EFL student teachers limited skills in screening for reliable

online resources. This indicated a need for them to develop a systematic approach to

evaluate online resources and make informed decisions about their reliability and suitability for their learning objectives.

From the focus groups, Speaker # 5 shared his approaches to searching and selecting online resources for academic learning,

> I often baidu-ed (google-ed) for my assignments and didn't think the resources could be unreliable until my teacher asked for the references for my homework. And she recommended some ways for me to compare the information online, such as checking the info. on multiple websites, check the publish date, and use the relative newly published ones.

Speaker # 5 learned to screen for reliable online resources, under the teacher's guidance, to cross check the acquired information on multiple websites, check the publish date, and pay attention to the timeless of published literature.

Speaker # 8 shared her ways in searching and choosing online resources related to their academic learning, meanwhile, found online resources evaluation challenging.

> I just input keywords and usually adopt the articles that are shown on the first few pages on Baidu. Frankly speaking, I have limited knowledge of evaluating online information. I mean, those articles are published ones, they should be reliable. However, I know, there is fake news and unscrupulous media, or you see someone on social media dressed in a white gown claiming he is a doctor and giving medical advice, and I can't afford to go to a doctor in the hospital to check if the medical advice is trustworthy. I'd appreciate it if the school or teachers could offer lectures on evaluating online information.

It seems Speaker # 8 was aware that she had limited knowledge on online resources evaluation and expected the school or teachers could offer lectures on evaluating online information. This indicates a need for schools and teachers' guidance to empower students to become discerning consumers of online information and foster essential skills for academic success.

Echoing Speaker # 8, Speaker # 11 shared that she found online resources evaluation challenging and expressed expectations of comprehensive help from instructors and school level.

For this (responded to Speaker #8) I agree with you. It would be great if the school or teachers could offer lectures on evaluating online information. However, I asked my teacher for advice on finding reliable academic articles during her online officer hour. She recommended the Chinese National Knowledge Infrastructure, CNKI, and the Chinese Journal Full-text Database, CJFD. They are free of charge for students, and as these are national-level databases, I assume the articles over there are trustworthy.

With the help of her teacher, Speaker #11 was able to find reliable information online through using national level databases for her academic learning.

Responses from the questionnaire and focus group interviews also showed ways applied searching and choosing online resources related to the Chinese EFL student teachers academic learning, which indicated that they had a certain degree of discernment. From the questionnaire, a student said, "I chose English MOOCs from the Ministry of Education website, China because I think courses offered on a national level department can be trustworthy."

In the focus groups, Speaker #4 shared,

I was preparing for the Test of English Major grade four (TEM-4). There are so

many exercise books available online. I chose the materials that were published

by famous publishers/companies, such as 人民出版社 (Renmin Press), 星火英语

(Xinghuo English), because I think famous publishers indicate good quality.

The first student relied on the government to ensure credibility and Speaker # 4 relied on

the reputation of the publishing house when choosing online exercise books, which both

exhibited a certain level of discernment.

These excerpts indicate that the Chinese EFL student teachers were proficient in

using digital technologies in terms of using online tools for their learning. Also, they

were capable of primary skills for online resource discernment, which calls for

integrating online resource evaluation skills into EFL student teacher education

programs, and further adequately preparing EFL student teachers to effectively

incorporate technology into their future classrooms.

Desire for Technical Support

There were 7.4% ($n = 11$) out of the total 148 responses mentioned they expected

better tech support from the school during online learning. Excerpts of the responses

related to this from the questionnaire include "The instruction slides for 钉钉 (Dingding,

compare to Canvas) sent from school was too long, I didn't read it through, I had to

search and watch instruction videos online by myself to figure it out," "The WeChat

message said I can call at the number if I got any problems in using the 学习通

(Xuexitong, compare to Canvas), but no one answered when I made the call," "I WeChat-

ed the tech-center guy for a registration issue, it took two days for him to reply. I figured

it out myself already." These excerpts indicated a lack of effective and timely technical

support from the school, which the Chinese EFL student teachers expected to promote a

seamless online learning experience. With educational institutions incorporating

technology (e.g., online learning platforms, digital resources, and interactive tools) into

their teaching and learning activities, technical support ensures the smooth integration

and functioning of these technologies. Meanwhile, technical support from schools also

contributes to creating an equitable learning environment, which ensures that all students,

regardless of their technical proficiency or background, have equal opportunities to

engage with online learning resources.

Speaker # 8 shared her experiences of online learning related to tech support from

school in the focus group,

My overall experience of online learning was fine. It would be great if the

university gave live lectures to prepare us on how to use the platform, I mean the

instructions PDF was too long for me to read through. Some inserted screenshots

in the file were different from what I saw on my screen, perhaps the version I

used was an updated one or on the contrary. I had to spend time to Baidu-ed

videos for the platform and video-chatted with my classmate to figure it out.

Speaker # 8 mentioned tech support as an aspect she would like to see improvement from

the school in terms of user-friendly instructions.

Speaker # 9 also shared his experiences of online learning related to tech supports,

Well, it was the first class online, and the whole class and teacher managed to get

into the 学习通 (Xuexitong, compare to Canvas) classroom, but we had to stop

every now and then during the class to figure out issues like how to set up

breakout rooms for group activities as the sign to enter the group rooms didn't

show on the screen, how to get back in the classroom when somehow got kicked

out of it. We had to wait for the tech guy to come to help, as he was busy helping

other classes.

Speaker # 9 reflected that online learning often necessitates tech support to address issues

related to digital technologies. This support may include troubleshooting technical

glitches and ensuring a smooth online learning experience for both students and teachers.

These excerpts showed that the EFL student teachers expected an efficient tech

support to ensure that both students and instructors can navigate the digital environment

seamlessly and focus on the educational content without disruptions.

Internet Connectivity

This theme included the availability and quality of both the internet access and the

devices that enabled online learning, and efficiency of learning with high speed Internet.

Internet Access Issues

Participants reflected on the internet connection and quality issues they've

experienced that impacted their online classes. Approximately 45.9% ($n = 68$) of

responses in the questionnaire reflected that they've experienced issues with internet

connectivity that impacted their online classes. Excerpts of the responses from the

questionnaire included "slow connection," "the Internet is off and on," and "internet lag."

I looked into the demographic information of the geographical location of the primary

place of residence of these respondents during their online classes. Table 5 shows the

overview of the geographical location of the primary place of residence of the

respondents who reported having experienced issues with internet connectivity for online classes.

Table 5

Overview of the Geographical Location of the Respondents with Internet Connectivity Issues

	Respondents	Urban	Suburban	Rural
Number of responses	68	32	16	20
Rate of 148 responses in all three settings	45.9%	21.6%	10.8%	13.5%
Rate of number of responses in each setting		36.0%	51.6%	71.4%

It shows that the majority of respondents (21.6%, n = 32) had experienced issues with internet connectivity located at the primary place of residence in urban settings, followed by rural settings (13.5%, n = 20) and suburban settings (10.8%, n =16). This may indicate a higher percentage of the respondents in urban settings had had internet connectivity issues than that of the other two settings, suburban and rural. However, this result may be due to the urban setting as the primary place of residence for online classes taking the largest proportion (60.2%, n = 89) of the three settings of the total 148 responses. The rate of the number of responses in each setting indicated that more EFL student teachers whose primary place of residence for online classes in settings of rural (71.4%, n = 20) and suburban (51.6%, n = 16) had internet access issues. This may be because internet coverage and services vary in rural, suburban, and urban areas in China, with the range of broadband internet coverage and service of 99% in the urban setting, 78.3% in the suburban setting, and 59.2% in the rural setting (CNNIC, 2021).

What's more, the two respondents in phase one who responded that they had online classes in only asynchronous mode were both in the suburban settings and had online classes for two semesters. They both would like to participate in the focus group interviews and were both recruited. They were pseudonym-ed as Speaker # 3 and Speaker # 7. Speaker # 3 stated in the focus group interview,

I had the lockdown at home for two semesters. The internet was super slow, I'm not sure, perhaps because it is not the fiber optic cable broadband. The internet kept lagging, and teachers and my peers froze on my screen most of the time. So, after explaining my situation to the teachers and the school, I switched to the asynchronous mode, with the learning materials/class recordings sent to me via WeChat, emails, and I can also download them from Xuexitong (Canvas), although it took a long time, but I could download them.

Speaker # 3 mentioned she had to switch to the asynchronous mode because the internet was super slow at her place (the suburban settings), it was not the fiber optic cable broadband. The internet kept lagging, and teachers and my peers froze on my screen most of the time.

Speaker # 7 stated in the focus group interview,

I had online classes for two semesters, and I had the lockdown at home. My parents only came home every half year and stayed for a month or so. Most of the time they worked in other cities. You know, they are the so-called 'migrant workers'. So, we didn't buy internet service at home. I used a mobile hotspot for my iPad, but the signal was not stable enough to support synchronous mode. So, I switched to the asynchronous mode, and I communicated with teachers and peers

via WeChat and emails. The learning materials, PPTs, assignments, and other

things.

Speaker # 7 had to switch to the asynchronous mode because her parents as 'migrant

workers' in the cities didn't buy internet service at their own place in the suburban area.

And the mobile signal was not stable enough to support synchronous mode.

These two excerpts also indicated that the EFL student teachers whose primary

place of residence for online classes in the rural and suburban settings had the internet

access issue due to the imbalance of the broadband internet coverage and services in

rural, suburban, and urban areas in China.

Devices Available

Focus group interviews provided more information regarding devices (e.g., PC,

tablets, laptop, and mobile phones) that enabled online learning. Revealed by another

participant in the same focus group Speaker # 7 was in, Speaker # 11 stated,

The student support specialists of the department of EFL teacher education

program did an investigation with us (the EFL student teachers) at the very

beginning of taking all courses online and asked if we had devices for courses

online.

Introduced by the dean of the School of Foreign Languages, I followed-up and checked

with a student support specialist of the Department of EFL teacher education program. In

response to the *Disrupted Classes, Undisrupted Learning* policy (Ministry of Education

of the People's Republic of China, 2020), the investigation was to see if any actions were

needed to ensure that all students could have access to at least one device for online

classes. This explained why there were no responses in the questionnaire about the lack

of devices for online learning during the COVID-19 lockdown.

Excerpts of speakers from the focus group interviews provide more details on the

Chinese EFL student teachers securing at least one device for online classes, such as

using one's own devices, family members', roommates', and devices on campus. Speaker

2 stated,

> I had online classes for two semesters, and I had the lockdown at home for both
>
> semesters. My parents also worked from home back then, you know, the policy
>
> said so. Every other week, one per household was able to be arranged to go
>
> outside for grocery shopping. I have my own laptop, I basically use it for online
>
> classes, and sometimes I use the PC in the study.

Speaker # 2 was able to have online classes because she has her own laptop and a PC in

the study at home.

Similar to the case of Speaker # 2, Speaker # 5 mentioned:

> I had a lockdown on campus with two roommates. I only had my tablet with me
>
> when I went back to campus, and I didn't know there would be another round of
>
> lockdown and online classes. Fortunately, my roommates had their laptops, and I
>
> got to use theirs when I needed one.

Speaker # 5 had a tablet for online classes, and could also use her roommates' laptops

when needed. Speaker # 6 shared:

> I had online classes for only one semester. I remember students taking turns to go
>
> to the dinners and kept social distance, you know, one take one student. I had my
>
> own laptop. The library and computer labs started to open to us in the mid of the

semester (yes, yes, speaker #5 echoed), I guess it may be because the situation

was better, you know, COVID-19 may be under control. Anyway, I sometimes

used the PCs in the library and computer labs but it required appointments

because of spot limits due to the social distance rule, only 4 students per room for

once it could take 30 students.

Speaker # 6 made appointments to use the PCs in the library and computer labs on

campus to have her online classes.

It seems that the Chinese EFL student teachers were able to secure at least one

device for online learning during the COVID-19 lockdown, either using personal devices

or sharing by family members, as well as using school devices or roommates' on campus.

It can be inferred that the Chinese EFL student teachers would not encounter a lack of

devices for their online learning under ordinary circumstances.

Efficiency of Learning with High Speed Internet

There were 83.1% (n = 123) of the total 148 responses from the questionnaire that

mentioned the online environment was efficient in regard to quick search and access to

learning materials that promoted learning. Excerpts of the responses related to this from

the questionnaire include "I can check the information from the Internet immediately at

any time which saves time," "Find materials in a timely manner, I'm able to conveniently

access learning resources," "Resources online are plentiful and available. It can meet my

immediate and extensive learning needs," and "It's convenient for online learning when it

comes to a quick meeting or provide immediate feedback to my classmates. I mean, it

eliminates the need for commuting for physical meets." These excerpts indicated the EFL

student teachers found online learning with the efficiency that catered to individual

learning styles, reduced commuting time and time looking for resources.

Also, Speaker # 5 from the focus group interview reflected that online learning

enabled him to receive immediate feedback to his questions:

> I like the online mode because it was more efficient for me to check for possible
>
> answers online immediately for the questions I had, and I did not need to refer to
>
> printed materials at the library. The information I need is just a Baidu away and
>
> there are Q&A platforms available, such as 知乎 (Zhihu, compared to Quora)
>
> where I got hundreds of replies a few minutes after posting the questions.

What Speaker # 5 were gaining in efficiency they may be losing in accuracy of

information given the platform used for answers were Zhihu (compare to Quora) where

contributors have diverse levels of expertise and knowledge. Speaker # 5 appreciated the

efficiency of online learning in terms of online platforms that provide instant access to a

wealth of resources, which eliminates the need for time-consuming trips to physical

resource centers.

Speaker # 7 also reflected that the internet offers quick search and access to up-to-

date learning materials that support learning.

> The Internet helped my learning with providing more relevant material more
>
> quickly than any other ways I've adopted, such as asking from peers, teachers and
>
> other knowledgeable people that I knew or visiting the libraries. And I can always
>
> find the latest information. You know, when I use Baidu Scholar, I can set all the
>
> published articles displayed in chronological order. And I can even find papers
>
> that were published that day.

Speaker # 7 found online learning has the efficiency of automating administrative

processes, access to current and relevant information, optimizing the learning experience

for the students.

Interactivity

       This theme comprised EFL student teachers' communication during online

learning through embedded interactive features of the online environment. There are five

revealed aspects of interactivity: student-content, student-faculty, student-student, and

tech-afforded collaborative activities that supported/impacted EFL student teachers'

online learning. Each sub-theme is explained and reported with numbers and percentages,

as well as excerpts from the questionnaire and the interview scripts.

Student-Content

       Participants mentioned their experiences in the online class in terms of class

design (e.g., constructed/unstructured content, online discussion, team projects) carried

out through activities that used a range of technologies (e.g., Jinshan drive, message

board) during their online learning. All participants in the questionnaire (100%, $n = 148$)

mentioned this subtheme. Excerpts of the responses related to student-content from the

questionnaire include "We designed questions based on the weekly readings assigned by

the teacher, exchanged questions with other teams, and answered each other's questions.

I enjoyed it." "Our teacher had the Danmaku (bullet screen) function turned on during the

team presentations. The audience posted timely feedback, and the presentation team had

the questions answered immediately. It was a lovely class moment," and "The teacher

had us choose our own topic on a cultural phenomenon and did a presentation. I felt I

played an active role in the class." Participants found themselves enjoying online classes

with integrated design, for example, classes that used technologies to create opportunities

for them to co-create content and produce materials that can be accessed on demand for

them than the classes that did not.

Speaker # 9 from the focus group interviews reflected that he enjoyed one online

class with an integrated course design that adopted technologies to create opportunities

for her to co-create content.

> I enrolled in a class named Intercultural Communication. It was a selective
>
> course. Besides the recommended textbook by the teacher, we were asked to add
>
> the learning content to the shared folder through offering learning materials, such
>
> as articles, book chapters. In teams, we had the options of presentations or mini
>
> lectures to 'teach' supplement content related to intercultural communications.
>
> Our team did a mini lecture on gender differences in communication. We also
>
> made e-handouts.

Speaker # 9 mentioned her experiences in an online class of Intercultural Communication

in the online class that the instructor invited the students to add course related literature to

the shared folder. Students engaged and interacted with the course content in the online

class.

Speaker # 10 from the focus group interviews mentioned the experience of them,

students, co-created content and produced materials that can be accessed on demand for

EFL student teachers.

> Yes (following Speaker # 9's response). I enrolled in the same class as you did.
>
> We were not on the same team. It was a big class, 78 students all together. It
>
> could be a boring class if we were not engaged through adding what we wanted to

learn by means of searching on our own and giving presentations, as well as

asking the teacher to broaden out the textbook. Do you (student asked Speaker #

9) remember once a student asked our teacher to talk about intercultural

communication in regard to class teaching as we are in the EFL teacher education

program. (Speaker # 9 nodded). And the teacher shared several cases of teaching

students with various backgrounds in the following few weeks. I liked those

classes. The access to the 金山文档 folder (Jinshangwendang, compare to Google

drive) for those videos and readings are still available for watching online and

downloading.

Speaker # 10 and her classmates proposed the teacher of Intercultural Communication

class to broaden out the textbook regards to cases of class teaching context, and used 金

山文档 folder (Jinshangwendang, compare to Google drive) for shared videos and

readings that are available for watching online and downloading at all times.

These excerpts indicated that the EFL student teachers, through technology tools

and online platforms, interacted with content in innovative ways. Participants reflected a

high level of engagement and interaction that they had with the educational material they

were studying during online learning.

Student-Faculty

Participants mentioned their experiences in the online class in terms of interaction

with their teachers (e.g., one-to-one interaction, timely communication, feedback) carried

out through a range of technologies (e.g., WeChat, Xuexitong, email) during their online

learning. Participants appreciated online classes when there was close

interaction/relationship between themselves and the teacher, for example, receiving

timely comments from the teacher, knowing the teacher, and having a variety of ways to reach the teacher.

All participants in the questionnaire (100%, n = 148) mentioned their experiences in the online class in terms of interaction with their teachers carried out through a range of technologies during their online learning. Excerpts of the responses related to student-faculty from the questionnaire include "I appreciated the online office hours offered by some teachers. I could connect to the teacher one-to-one and didn't need to worry that I'd be interrupted by others," "Teachers were available to reach through WeChat, email, and text. I felt comfortable when I know there were a variety of ways to connect to the teachers. " and "Some teachers used 金山文档 Docs (compared to google Docs.) to provide comments/feedback, I replied in the docs. I liked it. It was as if we (student and teacher) were the pen pal". These excerpts indicated that the EFL student teachers found effective and timely interactivity between students and teachers enriched their online learning experience in terms of promoting a positive and engaging learning environment.

Speaker # 1 from the focus group interviews reflected that she enjoyed close interaction/relationship with the teacher during the days of online learning.

> Besides facilitating class discussions and group projects by teachers. I want to highlight my teacher of the Intercultural Communication class, she had us each share one takeaway at the end of every class, and she also gave us an email address used as a drop box for us to give feedback, needs, and suggestions to the class design. I appreciated this way, as it pushed me to reflect on my own studies and I could stay close to the teacher, you know, it's important to me, especially during the lockdown, I felt I wasn't lost.

Speaker # 1 mentioned her teacher of the Intercultural Communication class built up a positive and engaging learning environment where encouraged students at the class reflect on their own learning and engaged with the class in terms of sharing feedback, needs, and suggestions regarding the class design.

> Speaker # 4 also, reflected on her experiences in an asynchronous online class. I had this class meet online once a month, and the other weeks we didn't meet online were in asynchronous mode. I watched pre-recorded lectures made by the teacher, and what's special from other asynchronous classes was the assignments were completed in the video format. I recorded myself and provided self-evaluation and reflection in the videos, and the teacher replied to me in the video too. So was the peer review activity. I liked the class. Once my mom said, it looked like to her, I was enjoying the homework. As if I was making a film, I was the director, the actress, the photographer.

Speaker # 4 stated that she felt motivated and engaged when offering opportunities to be creative in completing assignments and interact with the teacher during her online learning.

> These excerpts indicated that the EFL student teachers enjoyed the interactions of student-faculty relationship in the ways of teacher and students fostering an environment where questions and ideas were shared, utilizing technology to enhance interactive activities facilitated by the teachers as well as teacher providing feedback and necessary support and guidance to students.

Student-Student

Participants in the questionnaire mentioned their experiences in the online class in terms of interaction with their peers (e.g., work within teams/ groups, discussion) carried out through a range of technologies (e.g., WeChat, email, video conference) during their online learning. Participants found themselves enjoying online classes more when there was close interaction/relationship among themselves compared with when working solo. All participants in the questionnaire (100%, $n = 148$) mentioned their experiences in the online class in terms of peer interaction through a range of technologies during their online learning. Excerpts of the responses related to student-student from the questionnaire include "Through working with the team, I learned good apps that I didn't know, and I made progress in writing reports through learning from team members." "I liked it when we brainstormed, everyone contributed to the team with their ideas. And I think I've developed communication skills and teamwork skills." "Our team used 金山文档 (Jinshanwendang doc, compare to google doc) as we can edit on the same doc at the same time or at different times and left comments/feedbacks." These excerpts showed that the EFL student teachers enjoyed engaging with each other to share ideas, collaborate on projects, and collectively construct knowledge.

Also, participants in the focus group interviews shared their interaction experiences in the online class indicating that EFL student teachers enjoyed online classes through close interaction/relationship among themselves. Speaker # 8 shared her learning experiences online through interaction with their peers.

I like studying in teams, you know, collaborative activities. I remember a team project, it was the final product of the class. We made a teaching plan, and

recorded it as a presentation, like a showcase. Me and my team members met

online three times, decided on the topic, divided the work, and made the video. I

was also introduced to a free and easy-to-use video editing tool by a team

member. There is always a pleasant surprise through learning with the team.

Speaker # 8 reflected that she had a pleasant and successful learning experience online

through interaction with their peers through activities such as, brainstorming, labor

division, and information exchange.

Speaker # 11 shared her experiences of interacting with peers,

In class, the teacher organized group discussions, and we exchanged opinions

through the discussion board. We also worked together for group presentations,

and we had online meetings to decide the topic, labor division as well as

rehearsal. I think this drew my concentration and enthusiasm to the class. I had a

sense of engagement and developed the ability to team cooperation.

Speaker # 11 also reflected that learning through interaction with their peers drew her

concentration and enthusiasm to the class. The collaborative activities included

presentation rehearsing, labor division, and opinion exchange.

Tech-Afforded Collaborative Activities

Participants mentioned their experiences in the online class in terms of interaction

through tech-afforded teaching and learning activities (e.g., scramble game, exchange

video/audio responses, and co-edit online documents). There were 66.2% ($n = 98$) of the

total 148 responses from the questionnaire mentioned that the online environment

afforded learning activities made their teaching and learning interactive and productive.

Excerpts of the responses related to this from the questionnaire included

> We used this digital whiteboard (compared to Jamboard) in class, where everyone
> simultaneously shared opinions with the whole class. It was amazing to see a
> great deal of writing pieces popping up one after another, and I can get the other
> classmates' ideas without reaching out to them one by one,

and " I found a website with plenty of templates for making a teaching plan. I also made an e-teaching plan adding animations, you know, the moving pictures for my lesson plan assignments."

Speaker # 6 from a focus group interview reflected that the online learning enriched teaching and learning with multiple apps/tools available,

> We used 雨课堂 (yuketang, compare to Flip) for our British Society and Culture
> class. The teacher asked us to exchange our own experiences or others' we've
> seen or heard of for culture shock in terms of culture differences with
> communications with people from other cultures. Rather than sharing one by one
> in the class, which would take too long as there were 47 of us enrolled in the
> class, the teacher let us choose each post a video or audio on Yuketang, and
> respond to at least two classmate's posts. It was quite an interesting and engaging
> experience for me. It was a large class, I made new friends, and I found myself
> camera shy.

Speaker # 6 reflected that her online class enabled learning activities that engage every student of a large class size and promoted interactions among students to get to know each other. Interactivity among students is crucial for creating a dynamic and collaborative learning environment. Both Wenger's Community of Practice (Wenger-Trayner & Wenger-Trayner, 2015) and the Community of Inquiry (Garrison, 2005)

frameworks highlight the social and cognitive benefits of interactive learning experiences, emphasizing the importance of engagement and shared enterprise through collaborative interactions.

Lack of interactivity could cause less engagement to learning, or quote from participants, "bored". There were 17.6% ($n = 26$) responses of the total 148 responses mentioned that they had felt bored sometimes during online learning. Excerpts of the responses related to this from the questionnaire included "Studying online with just me looking at the screen, listening to teachers' lectures was particularly boring. I felt sleepy," and "I got bored looking at the screen for class videos and did the homework." These excerpts indicated limited social interaction can lead to the Chinese EFL student teachers' feelings of boredom and a lack of a sense of community.

Also, speaker # 2 from the focus group interviews mentioned she had felt bored sometimes during learning online because of the teacher's long lectures, which also involved in-person learning. Speaker # 2 stated that,

> I felt bored when the teacher sometimes gave long lectures and kept talking one slide after another. I know what the teachers talked about was important, and I should've stayed focused and taken notes. Just I felt I was not engaged and there was not anything for me to do there but listening, it was easy to feel bored.

Speaker # 2 seems to get bored of the online class because of the teacher's long lectures. She felt less engaged in the class when the class lacked interactivity with teachers.

Chapter Five: Discussion and Recommendations

The purpose of this case study was to explore EFL student teachers' online learning experiences in China. The site and participants in this case study were EFL student teachers from Huaxia Normal University (pseudonym) in China. The COVID-19 pandemic lockdown served as the context for this case study. This chapter includes a discussion of major findings as related to the adopted theoretical frameworks and the reviewed literature on online education for EFL teacher education. Recommendations may be valuable for use by teacher education program coordinators, teacher educators, and student teachers who plan to pursue EFL teaching professions. The chapter concludes with a discussion of the limitations of the study, areas for future research, and the conclusion.

Discussion

The results and findings presented in chapter four in reference to the research questions indicate that just over half of the EFL student teachers (54.0%, $n = 80$) had their online learning in both synchronous and asynchronous modes. A majority of EFL student teachers (60.2%, n =89) had their online classes in the urban areas as the geographical location of the primary place of residence. More than half of the EFL student teachers (50.7%, n = 75) had online classes for more than two semesters during the COVID-19 lockdown. While their experiences may include variation for each EFL student teacher individual, four common themes were revealed from the qualitative data: learner autonomy, digital skills, internet connectivity, and interactivity throughout their journey of online learning. The following section discusses how the results and findings from this case study relate to theoretical frameworks and previous literature.

Learner Autonomy

        The results from the open-ended response questionnaire and focus group

interviews indicated that EFL student teachers, to a certain extent, were taking an active

role in their online learning process through peer support/cooperation and instructor

support. This finding corroborated what has been suggested by earlier studies which

showed that the students found that online learning facilitated their independent learning,

but not necessarily as isolated learners. Through collaborations and the teacher's

support/guidance online, they developed as active learners responsible for their learning

(e.g., Suharsih & Wijayanti, 2021; You & Kang, 2014). Interactive features of online

learning that promote collaboration among students have the potential to enhance social

learning where students support each other and autonomy of learning with less

dependence on the teachers. The Chinese EFL student teachers experienced support from

teachers during the online learning. The support includes specific, detailed, and timely

feedback, as well as scaffolding students' knowledge-construction process (Bozkurt,

2017; Vygotsky, 1978) in terms of promoting engagement, active learning, critical

thinking, and interactions among students. In other words, during the Chinese EFL

student teachers' online learning, teachers provided guidance and organized learning

activities (e.g., discussions, group work) that emphasized critical thinking and

collaboration to encourage students to take an active role in their learning. In addition, the

Chinese EFL student teachers "in collaboration with more capable peers" (Vygotsky,

1978, p. 86) took an active role (Jonassen et al, 2003) in their own learning. In addition,

the Chinese EFL student teachers, worked collaboratively within/across groups,

interacted regularly about problems/topics, and negotiated a shared practice. That is, they

used each other's experience of practice as a learning resource, or in Wenger et al.'s (2011) words, EFL student teachers built up a "learning partnership" and found it "useful to learn from and with each other about a particular domain" (p. 9).

Meanwhile, the reflected poor time management skills for working independently call for further guidance through integrating technologies. A possible reason for EFL student teachers' poor time management skills for working independently could relate to their K-12 education experiences. Sharing the same K-12 education experiences with students of other majors at higher education levels, EFL student teachers received K-12 education for the sole aim, Gaokao, which is the unified national tertiary college entrance examination. Gaokao is often dubbed as "the most grueling exam in the world, determines which universities its takers are able to attend and can have lifelong consequences on Chinese students, whose higher-education experience, or lack thereof, will affect their job prospects and social mobility" (The China Project, 2019). K-12 education for Gaokao shapes Chinese students' school lives in ways, including rigid class schedules, designated class on test preparation, and greater amount of learning materials and homework compared with the learning intensity at the higher education level. In other words, newly high school graduates who were used to rigid and designated ways of learning may find it difficult to adjust to the new pace and need to develop time management for working independently, especially during their freshman and sophomore years (Tian, 2023). Supporting online students' time management calls for further guidance, such as setting up learning goals, offering choices rather than mandating a single option, and periodical achievement assessment. Support could be provided by an adult or capable peer or through a technology tool.

Digital Skills

The results from the open-ended response questionnaire and focus group interviews indicated that the Chinese EFL student teachers were able to locate and proficiently use online tools to promote their online learning. Adopting online tools that are available, the Chinese EFL student teachers formed an online community of practice, within which they interacted with each other; shared information, experiences, insight, and advice; and helped each other solve problems (Trayner & Wenger-Trayner, 2015).

Meanwhile, EFL student teachers could, also with guidance from teachers, evaluate and choose the available information online to promote their learning. Data showed that some Chinese EFL student teachers were capable of primary skills for online resource discernment, such as adopting information published by authoritative websites/database (e.g., the Ministry of Education website, CNKI- National Knowledge Infrastructure). While, they lack a systematic approach to evaluating online information, such as cross-reference the information with other reliable sources to verify its accuracy and be aware of potential biases in the information. This calls for adding online resource discernment within different courses for the EFL teacher education programs. This finding also is in line with previous studies. EFL Student teachers, as language learners and future language educators, need to be taught in response to the demands of contemporary society (OECD, 2012), and equipped with the knowledge and skills through standards and frameworks (UNESCO, 2018) to integrate technology into teaching practices, engage students in digital learning environments, and resource discernment (Indah et al., 2022; Nikou & Aavakare, 2021). There is also knowledge and skills specific to teaching, such as understanding how to leverage digital tools for

instructional purposes, to foster digital collaboration and communication skills, and to promote responsible and ethical use of digital resources (Collett et al., 2024; Peled, 2021; Vodá et al., 2022). In addition, as globalization continues to shape the world, 21st-century workforce skills in terms of the competencies of proficiency in using digital tools, critical thinking in evaluating online information, and adaptability to technological advancements are essential for individuals to succeed in a rapidly evolving digital age and remain competitive in various professional domains. This highlights that incorporating global education into the curricula of the EFL teacher education programs is crucial for preparing Chinese student teachers to thrive in their teaching profession in their future professional environment, as well as interconnecting global society.

In addition, the Chinese EFL student teachers expected effective and timely technical support from the university during their online learning. This may indicate a need for further improvement of efficient technical support from the school level. This is in line with Mahyoob's (2020) findings on the challenges confronted by EFL learners in Taibah University, Saudi Arabia. Mahyoob's study indicated that learners had an expectation for advanced school technical support to tackle the technical issues from using online platforms. Sepulveda-Escobar and Morrison's (2020) case study on exploring the challenges of 27 Chilean EFL teacher candidates online learning showed that participants expected more efficient technical support for tackling technical issues of the online settings that strongly disrupted the participants' learning process. On the other hand, the Chinese EFL student teachers' desire for technical support from the university for their online learning indicates real-time technical support is essential to ensure that both students and teachers can effectively navigate and utilize digital learning platforms

and technologies for teaching and learning activities. The Chinese EFL student teachers

and their teachers could save time and effort on exploring the use of certain platforms and

troubleshooting related technical issues by themselves during classes. In addition,

Chinese EFL student teachers' desire for technical support also indicates the advance or

regular training/workshops from the university on online learning tools and technologies

to ensure smooth online learning classes. This finding also echoes previous research. For

example, Sun et al. 's (2021) survey on EFL student teachers' online learning experiences

in Hunan, China reported that EFL student teachers expressed that there could have been

training courses in the use of online learning platforms for their online classes.

Findings in terms of flexibility in teaching and learning are similar to previous

research findings in terms of EFL teacher education enabling educational activities

through a combination of information resources, technical devices, and

telecommunication channels (e.g., Chow & Wong, 2020; Istiara & Hastomo, 2023). The

enormous changes at the level of information, communication, knowledge acquisition,

and the establishment of social relations that digitalization has brought a great impact on

the educational field (UNESCO, 2018). This prompts an intensive exploration of taking

advantage of modern technologies to prepare future EFL educators in terms of enabling

them to an effective, appropriate, and contextualized use of digital tools for pedagogical

purposes (Kassim et al., 2013; OECD, 2012). In line with social constructivist views of

learning, the constructivist technology-intensive learning environment is to create learner-

centered, technology-supported collaborative environments that support reflective and

experiential processes (Tam, 2000). Also, taking advantage of the Internet and online tools,

the EFL student teachers learn collectively to increase their knowledge, expand their

experience, identify gaps in competence, and solve problems (Wenger-Trayner & Wenger-

Trayner, 2015). Flexibility in teaching and learning in the EFL teacher education program entails to prepare the EFL student teachers, as a learner and future teacher, being able to adjust their learning pace, methods, and environments to suit their individual needs, preferences, and constraints, and being open to and integrate alternative pedagogical approaches to optimize learner engagement and success. That is, the EFL teacher education program to in-person courses could leverage technology to enhance more flexibility in terms of promoting student engagement and accommodating diverse learning needs, ultimately creating a more dynamic and effective learning environment. According to Garrison et al.'s Community of Inquiry Model, in the teacher education context, the EFL student teachers "communicate purposefully in a trusting environment" (Garrison, 2009, p. 352), which is a collaborative environment that "is in the overlap of the three presences where the essence of a community of inquiry exists and meaningful collaboration occurs" (Garrison, 2009, p. 352). That is, setting climate is the overlap of cognitive presence, social presence, and teaching presence in an online community of learning. In other words, to create physical, social, emotional, and instructional supports that foster open communication and friendly interaction. This approach encourages active engagement and participation from EFL student teachers within the online learning community (Parker & Herrington, 2015).

Internet Connectivity

The results from the open-ended response questionnaire and focus group interviews indicated that all EFL student teachers were able to secure at least one device for online classes through multiple means, including using personal devices, sharing family members', using school devices, and using roommates' devices. On the other hand, it

showed that 45.9% (*n* = 68) of the questionnaire responses reflected that they experienced

internet connectivity issues, including slow connection, internet lag, and network

interruption. The Chinese EFL student teachers who encountered this issue were not

alone, as this matter was also stated for EFL students in previous studies in other

countries, for example, EFL students from one public university in Banten also reported

"the biggest challenge the students dealt with was internet connection or network"

(Suharsih & Wijayanti, 2021, p. 252). The Internet connectivity issue calls for further

improvement in access to reliable internet connectivity at all levels nationwide.

Meanwhile, it indicates the digital divide in terms of place of residence for individuals

and calls for researchers and stakeholders to address this challenge to work towards

building a more inclusive, connected, and equitable digital future for all (Collett et al.,

2024; Slapac et al., 2023).

Descriptive statistics indicate that a higher percentage of the respondents in urban

settings had had internet connectivity issues than that of the other two settings, suburban

and rural. This result is mainly due to the fact that the urban settings accounted for a

larger proportion (60.2%, n = 89) of the total 148 responses' primary place of residence

for online classes during the COVID-19 pandemic lockdown. The rate of the number of

responses in each setting indicates that more EFL student teachers whose primary place

of residence for online classes was in settings of suburban (20.9%, n = 31) and rural

(18.9%, n = 28) suffer from issues with internet connectivity during the COVID-19

pandemic lockdown. This indicated a need for the development of a more balanced

infrastructure network at the national level in China regarding the coverage in suburban

and rural areas, as well as support at the school level in ways such as offering financial

aid/compensation for the mobile traffic plan (as not all students budget for unlimited

data/quota service) supporting student's academic success in learning in areas without

(regular) internet connectivity.

Interactivity

The results from the open-ended response questionnaire and focus group

interviews indicated that the Chinese EFL student teachers appreciated the interactivity

during online learning. The Chinese EFL student teachers built up relationships, timely

communication, and collaborative activities with teachers and peers during online

learning. Online learning can be efficient with high speed Internet and when implemented

effectively, offering various advantages that contribute to streamlined educational

experiences. This finding also echoes previous studies. For example, Bailey (2022)

surveyed 547 EFL students' online learning experiences in two South Korean universities

and showed that the EFL students perceived that they had effective interaction with

teachers and peers through technology-supported online learning, including the use of

social media and video conferencing tools. During sub-conference Zoom sessions with

breakout rooms for group activities, students expressed their positive experiences of the

chance to interact with peers, exchange conversations, and enhance their communication

skills, all of these activities contributed to fostering a heightened sense of social presence

among the students (Rakushin-Lee, 2021). In addition, well-organized class content, clear

instruction approaches, collaborative learning, and timely feedback/interactions were

either found effective or expected to be adopted for online learning (e.g., Sert & Li, 2019;

Jeong, 2017). Slapac et al. (2021) also share the findings related to the process of creating

communities of practice through teacher action research in online courses, emphasizing

the important factors that contribute to growth and resiliency such as, constant support, collaboration, compassion, flexibility and adaptability among others.

From the perspectives of the community of inquiry (CoI) framework, a collaborative environment is important in shaping the educational experience, and the continuous and overlapping of social presence, teaching presence, and cognitive presence where "the essence of a community of inquiry exists and meaningful collaboration occurs" (Garrison, 2009, p. 352). That is, the quality of EFL student teachers' online learning is related to identifying the course of study, developing interpersonal relationships, and constructing meaning through sustained communication in an online collaborative environment, with purposeful communication in the aspects of student-content, student-faculty, and student-student using online learning platforms. Thus, it calls for teacher educators to give a constant effort to promote a meaningful educational experience (Garrison et al., 2000) for the EFL student teachers to better online communities that positively affect the quality of student learning, engagement, and motivation in the online learning environment.

Recommendations

In China, it is the first time that online learning behavior occurred on a nationwide scale among students of all levels of education (Ye, 2020) during the COVID-19 pandemic, as well as among EFL student teachers. The findings of this case study on the Chinese EFL student teachers' online learning experiences provided valuable feedback on their online learning experiences. This sheds light on teacher educators to adopt effective practices in terms of teaching the EFL student teachers to achieve effective learning. It also advances EFL teacher education programs to prepare EFL student

teachers for entering teaching positions and adopting effective practices to teach under

the online mode. In other words, this case study shed insights into EFL teacher education

programs in China for further integration of modern technologies into EFL student

teacher preparedness.

Accordingly, there are two recommendations for EFL teacher education programs.

The first recommendation is for instructors to integrate online mode features to promote

learner autonomy. The reflected poor time management skills for working independently

call for further guidance through integrating technologies. One thing to point out is that

the responses indicated that EFL student teachers' lack of pace/time management skills

may not be due to a lack of knowledge of technology tools, on the contrary, the findings

indicated that the Chinese EFL student teachers were proficient in using digital

technologies in terms of using online tools for their learning. However, they were

undermotivated because of a lack of identifying personal learning needs and setting

learning goals to address those needs. In addition, challenges like distractions from

notifications of social media/websites, and online games may also have caused poor

pace/time management skills for working independently. Thus, instructors integrating

online mode features to promote learner autonomy in terms of pace/time management

skills would better prepare EFL student teachers to take a more active role in their own

learning.

The second recommendation is online resource discernment should be added

within different courses for the EFL teacher education programs. Specifically, EFL

student teachers nowadays are from the "digital native generation" (Jeong, 2017, p. 19),

who, also shown in this case study, were proficient in using digital technologies in terms

of using online tools for their learning. However, the reflected lack of skills for online

resource discernment calls for integrating online resource evaluation skills into EFL

teacher education programs. Adding online resource discernment within different courses

for EFL teacher preparation programs could better and further adequately prepare EFL

student teachers' learning outcomes as well as effectively incorporate technology into

their future classrooms. By integrating online tools (e.g., search engines, online

instruments), the course instructors could provide guides to EFL student teachers to

evaluate the achieved online resources in terms of authority, accuracy, objectivity,

currency, coverage, and relevancy. It is essential for ensuring the online resources'

quality, effectiveness, accessibility, efficiency, and alignment with EFL student teachers

learning objectives, ultimately enhancing the overall learning experience for them. Online

resource discernment plays a crucial role in supporting the process of EFL student

teachers, during which they engage in collaborative, reflective communication and

deepen their understanding of a subject or issue. By evaluating the effectiveness,

accessibility, and relevance of online resources, EFL student teachers can enhance the

overall quality of the learning environment within the community of inquiry, promoting

active engagement, and critical thinking.

Limitations

Through the open-ended response questionnaire and focus group interviews, this

case study was designed to provide information about the experiences and perceptions of

EFL student teachers' online classes in China. The results and findings are limited to the

population of Chinese EFL student teachers and may have a limitation regarding the case

study itself. As, this study focused on the experiences and perceptions of EFL student

teachers' online classes in China, a case study is characterized by its in-depth exploration

of a particular individual, group, event, or phenomenon within its real-life context. It

allows me to examine this real-life situation in detail, uncovering rich insights and

providing contextually rich descriptions (Yin, 2018).

Another limitation of this case study may lie in that the COVID-19 lockdowns

served as the context of this case study, which may limit this single case study to

generalize to a wider context and population. However, the outbreak of the COVID-19

pandemic was the first time that brought teaching and learning at all levels of education

online in the history of China, where online learning mode was mainly adopted as a

supplement to face-to-face physical classroom settings (Ye, 2020). The COVID-19

lockdowns served as an opportunity to study the experiences and perceptions of EFL

student teachers' online learning. I expect the case study to shed some light on the

advancement of EFL teacher education programs in China to achieve effective

preparedness of EFL student teachers in terms of understanding and integration of

technologies in daily teaching practice (Alanoglu et al., 2022).

Areas for Future Research

The outbreak of the COVID-19 pandemic worldwide and the shifting of all

classes online to many countries in the world brought attention to stakeholders in the field

of education to rethink or reflect on teaching and learning in online mode as well as to

teacher preparedness in terms of teaching practice to meet the learning needs and

requirements in the information ages. China had experienced its first shift of teaching and

learning activities online at an unprecedentedly large scale in the history of China (Ye,

2020). It is foreseeable that teaching and learning through the online mode will become a

significant form of teacher teaching in China (Zhou et al., 2020). This case study pointed

to areas for potential research in EFL teacher education programs and other programs as

well.

First, this case study focused on one to three semesters of a four-year normal

university EFL teacher education program. Further studies could lie in follow-up with the

EFL teacher teachers' online learning experiences in junior and senior years, and their

possible integration of technologies into classroom teaching at placements and teaching

positions after graduation. Further research may capture EFL student teachers'

trajectories of receiving education for being an EFL teacher from modes of online and

face-to-face in their teacher education programs, and comparison studies on these two

modes could show us the multiple ways that an EFL student teacher enacts, negotiates

and constructs their professional development. In addition, studies on student teachers'

online learning experiences could also expand to student teachers of other majors, which

could bring a more broad and comprehensive understanding of online learning in terms of

effective learning and learning outcomes.

Second, this case study adopted a qualitative approach to explore EFL student

teachers' experiences and perceptions of online learning. The instruments and tools

adopted in this case study were the open-ended response questionnaire and focus group

interviews, which indicates the collected data for this case study are qualitative data.

Further research may also adopt diverse tools, such as scale questionnaires to investigate

EFL student teachers' experiences of online learning. In addition, further studies may

also adopt various research methodologies, such as the ethnographic method. A

longitudinal study could bring a comprehensive understanding of the integration of

technology in teaching and teacher education in consideration of socio-cultural contexts

and the development of teacher beliefs in online learning.

Third, this case study pointed to areas for potential research in EFL teacher

education programs in terms of 21st-century digital literacies, global education, as well as

virtual international exchanges, such as Collaborative Online International Learning

(COIL). EFL teacher education programs are at the forefront of preparing future

educators for the learners' needs in the era of the 21st century. That is, further research

could lie in EFL student teachers to be proficient in leveraging technology (e.g., fostering

students' digital fluency, teaching them to critically evaluate online information, and

facilitating collaborative learning in virtual environments) to enhance language teaching

and learning experiences. In addition, further studies may also lie in EFL teacher

education programs that embrace the principles of global education to prepare future

teachers for a multicultural and interconnected world in terms of the development of

intercultural competence, global awareness, and cross-cultural communication skills

among both educators and students to address the complexities of the globalized society

and nurture global citizens. Also, further research could lie in EFL teacher education in

terms of facilitating virtual international exchange programs (e.g., COIL), which

empower future EFL educators to learn to foster inclusive, innovative, and language

learning environments that prepare students for success in an interconnected world.

Conclusion

The outbreak of the COVID-19 pandemic deeply affected the education sector in

China. Online learning, which before the pandemic was mainly adopted as a supplement

to face-to-face physical classroom settings (Ye, 2020), brought more attention from

researchers and educators regarding how to employ more sophisticated and accessible use

in teacher education. Out of personal interests as an EFL teacher educator, the wide use

of the English language in the world, and unprecedented large scale of online learning in

China before the COVID-19 pandemic, brought my focus of this case study on the

Chinese EFL student teachers' online learning experiences and perceptions. This case

study adopted a qualitative approach to understand the experiences of online classes

among EFL student teachers at Huaxia Normal University in China. The results and

findings revealed four major themes: learner autonomy, digital skills, internet

connectivity, and interactivity.

This case study provided valuable feedback from the Chinese EFL student

teachers' online learning experiences and shed light on how EFL teacher education

programs can achieve better and more advanced EFL teacher education programs in

terms of integration of online mode in China. Additionally, as the learners/authorities

/stakeholders of EFL teacher education programs, EFL student teachers offered firsthand

insights into the continual advancement of EFL teacher education programs, and "given

educators time to rethink education and to address paradigms of education" (Bast, 2021,

p. 2).

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Appendix A

Perspectives Towards Online Learning Questionnaire

Dear EFL student teachers,

Thank you for taking time out of your busy schedule to complete this questionnaire! This questionnaire is used to investigate EFL student teachers' perspectives towards online learning amid COVID-19 pandemic, with the purpose of provide certain insight into curriculum design, teaching plan, learning environment setting for online class from which EFL student teachers pursue academic achievement during pandemic and post-pandemic. Your answer is of great importance to our improvement. This survey collects information anonymously, and all data and information will be treated confidentially for research use only. Please fill in the questionnaire according to your actual situation and thoughts.

I. Demographic Information

1. Gender

A. Male   B. Female   C. Other

2. Number of semesters you've had for online class during the COVID-19 pandemic?

A. One   B. Two   C. More than two

3. What is the geographical location of your primary place of residence for the online classes

   during the COVID-19 pandemic lockdown?

A. Urban   B. Suburban   C. Rural

D. Urban-rural junction   E. Other (please specify) _____

4. How were your online classes offered during the COVID-19 pandemic?

A. Synchronous   B. Asynchronous   C. Both   D. Other (please specify)

_____

II. Perspectives towards online learning

Thank you for your continued support of the investigation! Here is a list of open-ended

questions related to the online learning process during COVID-19 pandemic lockdown.

Please answer the following questions in your preferred language, either English or

Mandarin..

1. To what extent did you feel a sense of autonomy and ownership in your online

   learning? Can you provide examples of how you took initiative, set goals, or

   made choices in the online environment that aligned with your learning needs and

   interests?

2. Were there any interactions and collaborative activities during your online

   learning? If so, how did the interactions and collaborative activities facilitate your

   learning, or not? Please share some experience where you learned from

   interacting with peers/teachers or more knowledgeable others online.

3. How did the online environment support your active learning process? Can you

   describe a specific online learning experience where you felt actively engaged in

   constructing your knowledge and understanding (e.g., practicing the English

   language, applying EFL pedagogical strategies learning)? Can you share some

   examples of activities that allowed you to apply your knowledge to a meaningful

   situation?

4. What contributed to your engagement and motivation in the online learning environment? Can you describe instances where you felt motivated or unmotivated?

5. How has technology and online tools enhanced your learning experience? Can you discuss specific technologies or applications you have, or you have seen your teachers/peers used and how they have supported your online learning process?

6. Reflecting on your overall online learning experience, what have been the most significant benefits or advantages of online learning for you? How has it contributed to your personal growth, or pursuit of knowledge?

7. Have you had any obstacles/challenges of online learning? If so, what were your obstacles/challenges?

8. Would you be interested in participating in a follow-up interview? If so, please provide your email address.

Appendix B

Focus Group Interview Protocol

Participants will be broken into three groups (4-5 participants per group) in terms of their schedule availability.

Thank you for taking time out of your busy schedule to participate in this interview! This interview is used to learn about your experiences of online classes during COVID-19 pandemic lockdown from which the lessons learned by this experience could contribute to building up a well-established online learning environment, and pedagogical strategies to support the learning of EFL student teachers. Your answer is of great importance to our research. Data and information collected from the responses will be audio recorded from this interview and will be treated confidentially for research use only. Please answer the interview questions according to your actual situation and real ideas, and you're welcome to share more thoughts besides the interview questions. Thank you for your cooperation. Participation in this focus group is voluntary, and you may choose to stop the group discussion at any time. Would you mind if I audio recorded the focus group? It will help me to stay focused on our conversation, and it will ensure that I have an accurate record of what we discussed. At any point, if you would like me to turn off the audio recorder, just let me know. Any personal identifiers will be removed during transcription. Are you ready to begin?

Interview questions (probes) of focus group interview

1. Have you had online learning experiences before? If so, what kinds?

2. Can you describe your overall experience with your online learning during the COVID-19 lockdown?

Possible probe-

    a. ~~Was this different or similar to your other online learning experience?~~

       ~~(removed)~~

    b. Did any of you have online learning for more than one semester due to the

       COVID-19 lockdown? If so, are there any differences from the first time?

    c. How you have taken initiative, set goals, or made choices in the online

       environment that align with your learning needs and interests? (added)

    d. How was the online environment influence your learning initiative?

       (added)

3. How did you feel when you heard from the university that you'd have online

   classes for the coming semesters?

4. What were your expectations for online classes, and to what extent were they

   met?

    a. possible probe- What kind of assistance do you presume that you will need

       from the university for your learning online? Have these presuppositions

       changed during online learning? What do you wish the university would

       have done to assist you?

5. How did you cope with the obstacles/challenges of online learning? ~~(Removed~~

   ~~question: did you have any obstacles/challenges of online learning during the~~

   ~~COVID-19 lockdown?)~~

6. How well did you feel the support/connection from staff, teachers, and peer

   students?

      a.   Possible probe: What did you do or did others do that made you feel

          supported or connected?

7. How have your instructors facilitated your learning process online? Can you

   describe a specific instance where the instructor's guidance or scaffolding helped

   you deepen your understanding?

8. ~~What types of opportunities did you have to interact with the instructor and the~~

   ~~other~~

   ~~students in the online courses? How did these interactions support your learning~~

   ~~and improve your learning experience? (removed)~~

9. What advice/improvement would you give to the EFL teacher education program

   regarding your own readiness to teach online?

10. Is there anything else you'd like to add regarding your online learning

   experiences?

      a.   possible probe- How have the experiences of online learning affected your

          learning as a student teacher? In what ways?

Appendix C

Consent Form

University of Missouri–St. Louis

Informed Consent for Participation in Research Activities

Project Title: The Pivot to Online Learning due to the COVID-19 Pandemic: Perceptions of

EFL Student Teachers in a Normal University in China

Principal Investigator: Jingxin Cheng

Department Name: Education Sciences & Professional Programs

IRB Project Number: 2075044

1.   You are invited to participate in a research study. The purpose of this research is to study EFL student teachers' learning experiences of the online education mode during the COVID-19 pandemic. The study is being conducted by Jingxin Cheng, a doctoral candidate in the College of Education at the University of Missouri-St. Louis. We ask that you read this form and ask any questions you may have before agreeing to be in the research. Your participation in this research is voluntary. Your decision on whether to participate will not affect your current or future relations with the researcher or the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

2.   Your participation will involve between approximately 25 minutes – to 2 hours total time over the course of a 3-month time period. If you agree to participate in this research, you will be asked to complete a questionnaire, which will take approximately 25-30 minutes to complete. If you volunteer and are selected for the second round of the study, the focus group interviews, will take approximately 1 hour to 1.5 hours.

3.   There is a loss of confidentiality risk with this research.

4.   There are no direct benefits for you participating in this study.

5.   Your participation is voluntary, and you may choose not to participate in this research study or withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw.

7.   We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication that may result from this study. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

8.   If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Jingxin Cheng at +86 13998345829 or +1 314-679-0267, or contact via email jck37@umsystem.edu. You may also ask questions or state concerns regarding your rights as a research participant to the University of Missouri–St. Louis Office of Research Compliance, at 314-516-5972 or irb@umsl.edu.