Preservice Teachers' Experiences with E-service Learning for Middle School Students in South Korea

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Abstract

Electronic service (e-service) learning has considerable potential to promote engagement and interactions between people by liberating spatial constraints. Due to the pandemic situation, ordinary face-to-face service learning was impossible, but there was an urgent need to support adolescent English learners in communities. In accordance with the community needs, this phenomenological study explored Korean EFL preservice teachers' experiences and perceptions of e-service learning, focusing on the collaborative nature of learning. Based on this, we collected data from multiple sources (i.e., interviews, reflective reports, and artifacts) from 23 Korean preservice teachers majoring in English language education and conducted interviews with six teachers. The qualitative analysis of these data reveals that the Korean EFL preservice teachers seem to see four essential benefits and strengths of e-service learning: (1) the construction of their teacher identity, (2) the development of teaching-related skills, (3) the fulfillment of EFL learner needs, and (4) a social impact. They also addressed several challenges of e-service learning. Findings provide EFL teacher educators and researchers with valuable insights into e-service learning as part of teacher education.

Keywords: *EFL Preservice Teachers, E-service Learning, Secondary Education, Teacher Education*

Introduction

As theory and practice at odds in education often occur and challenge both researchers and practitioners, a growing number of researchers and teacher educators have developed and implemented an educational practice, called service learning to their teacher education programs. Participation in service learning involves active participation in arranged experiences for individuals and community needs by connecting theory to practice (Perkins,

1994). In the context of English as a Foreign Language (EFL) teacher education, service learning affords EFL preservice teachers with experiential opportunities to connect their learning in teacher education programs with real-world issues in their communities (Eyler & Giles, 1999; Meaney et al., 2008; Wilson, 2008). In other words, it can help them to obtain "further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility" (Bringle & Hatcher, 1996, p. 222). In addition, EFL preservice teachers can better understand and foster interconnected relationships among learners. Schools meet the needs of local communities and become more active partners of the community through service learning. As an experiential learning practice, service learning can be a powerful venue to engage students with social change and engagement. Thus, service learning can certainly increase the quality of teacher education.

Emerging technologies play an essential role in service learning. They have enabled service learning to take place online in the form of electronic service learning (e-service learning). E-service learning seems to be a compelling and timely topic of inquiry while we have experienced the COVID-19 pandemic for the past several years. Both emerging technologies and the pandemic have generated new possibilities for e-service learning for EFL teacher education. Yet, this emerging teaching practice, especially a great possibility of e-service learning, is little discussed or reported in the existing literature. Additionally, there is a dearth of research on addressing teachers' thoughts and perceptions of the use of e-service learning in teacher education. Therefore, there is a necessity of further research in order to better understand the potential of e-service learning as a tool for preparing future teachers. In this regard, this qualitative phenomenological study explored EFL preservice teachers' experiences in e-service learning, focusing on its benefits and the challenges EFL preservice teachers faced during e-service learning. Two research questions guided our study:

RQ1: What are the benefits of e-service learning that Korean EFL preservice teachers' experience?

RQ2: What are the challenges that Korean EFL preservice teachers face during e-service learning?

By answering these questions, this research aims to explore the potential of e-service learning for EFL teacher education, understand its nature for the post-pandemic era, and provide valuable insights into the future directions for EFL teacher education.

Literature Review
Service Learning
Service learning refers to a form of experiential learning where students learn theory and research in the classroom and apply them to address authentic individual and societal needs (e.g., community problem-solving). Service learning embodies two key principles: reciprocity and reflection (Warschauer & Cook, 1999). First, service learning is a reciprocal activity between the group that serves the community and the community that is served. This reciprocity enables learners to build a greater sense of accountability and belonging to an engaged community. Second, service learning is a reflective activity for those who engage in service learning. They experience many activities through collaborative discussions and reflections, leading to coordinated opportunities for reflection (Jacoby, 1996; Warschauer &

Cook, 1999). Felten et al. (2006) stated, "Effective reflection in service-learning as a process involves the interplay of emotion and cognition in which people (students, teachers, and community partners) intentionally connect service experiences with academic learning objectives" (p. 42). In teacher education, reflections can help preservice teachers to analyze and improve their own teaching practices, which further facilitates their professional and social competences. Thus, service learning in teacher education can play a critical role in fostering preservice teachers' professional development and strengthening relationships between universities and communities.

As the reciprocal and reflective nature of service learning suggests, there are abundant benefits of service learning for various parties involved. For instance, university students who experience service learning in their courses have showed academic growth and professional skill development (Elwell & Bean, 2001; Wade & Anderson, 1996). In addition, community benefits from service learning include the engagement of community partners and development of useful products and services (Killian, 2004; Strait & Sauer, 2004). Service learning also helps establish strong faculty relationships and provides discipline-based faculty service (Eyler et al., 2001) and commitment to research (Driscoll et al., 1996).

Service learning has been considered as effective in teacher education in that it affords preservice teachers with opportunities to develop communication skills and instructional teaching and tutoring. Several educational studies have reported the enhancement of preservice teachers' self-efficacy and teaching attitudes (Astin & Sax, 1998; Eyler & Giles, 1999; Jacoby, 1996; Sax et al., 1999) and their cultural competency (Meaney et al., 2008) through service learning. TESOL preservice teachers and K-12 students in local communities both benefited from the opportunities of real-life language practice and showed the enhancement of a sense of social responsibility (Minor, 2002) (see Carr et al., 2006; Schneider, 2019 for more service-learning-related research in TESOL).

E-service Learning

Electronic service (e-service) learning is a means of experiential education in which instructional and service components are implemented online (Waldner et al., 2012). E-service learning is defined as:

> An electronic form of experiential education [that] incorporates electronically supported service learning. It is delivered online and uses the internet and state-of-the-art technologies that permit students, faculty, and community partners to collaborate at a distance in an organized, focused, experiential service-learning activity, which simultaneously promotes civic responsibility and meets community needs (Malvey et al., 2006, p. 187).

In terms of the types of e-service learning, four emerging types have been identified, such as (1) fully on-site service with full online instruction, (2) fully online service with full online instruction, (3) a blended format with partially on site and partially online instruction, and (4) extremely 100% online instruction and service (Waldner et al., 2012). Among these types, our research reported in this article designed and implemented the form of 100% of the instruction and service online.

In addition to reciprocal and reflective characteristics of service-learning, e-service learning has a unique affordance, namely, relatively easier access to learning. E-service learning is especially powerful in that it can engage people who have challenges to join face-to-face service-learning activities, for instance, populations living in rural areas without access to higher education, learners with disabilities (Malvey et al., 2006), or introverted individuals who may prefer online practices to face-to-face ones (Waldner et al., 2012). E-service learning can better serve the underrepresented student populations (e.g., English language learners) in rural and distant areas all over the world.

Similar to service-learning studies, e-service learning research scholarship (Figuccio, 2020; McWhorter et al., 2016; Rutti et al., 2016; Schmidt, 2021; Waldner et al., 2012; Yu et al., 2021) has revealed that e-service learning is a desirable transformative learning practice to promote societal engagement and to enhance educational practice in the 21st century. For instance, Figuccio's (2020) study investigated the perceived advantages of e-service learning that college students in New York. Fifty-eight college students completed service-learning through online modules. These modules included social and career skills (e.g., transportation, job search, and interviewing) for youths with developmental disabilities on a Google Site. Then, the participants wrote reflective reports and completed a survey questionnaire regarding their perceptions of e-service learning experiences. The findings indicated that the individuals who engaged in face-to-face service learning, as well as those who joined e-service learning, demonstrated an improved comprehension of students with disabilities. Furthermore, they experienced improvements in their academic performance, personal development, and student engagement within an online setting, which was comparable to the results achieved through in-person service-learning. One distinct finding was that the participants' e-service-learning experiences decreased the degrees of anxiety. This shows the participants' overall impression of e-service-learning experiences was positive.

More recently, Schmidt's (2021) study examined the usefulness of e-service learning on child development during the pandemic. Eighteen college students in a developmental psychology course participated in creating instructional materials (i.e., storybook recordings and instructional videos) and shared them with preschool teachers at a local nonprofit organization. The participating college students reported that their experiences in e-service learning were beneficial. In particular, they appreciated "convenience" and "flexibility" of e-service learning and reported that e-service learning allowed students to control their own learning over the period of time.

In the field of Applied Linguistics and TESOL, very little research has investigated e-service learning. As a notable exception, Sun and Yang (2015) implemented an e-service learning project into their EFL speaking class in a Taiwanese university. Utilizing Web 2.0 tools (i.e., YouTube and Facebook) as e-service learning platforms, fourteen undergraduate students took part in the e-service-learning project to increase community engagement and English oral communication skills. The participating university students created YouTube videos about the transportation system near the campus and the information about sightseeing spots in Taiwan for incoming international students. They then shared their videos with international students in a Facebook community. The findings revealed that the EFL participants enhanced their public speaking skills in English, built confidence in speaking

English, and developed self-regulated learning. In addition, e-service learning with Web 2.0 tools promoted the potential of reaching the target population in the distance and virtually interacting with them as an alternative means of communication. Overall, little is known about e-service learning for English language learners and teachers despite the potential benefits of e-service learning addressed for two decades (Warschauer & Cook, 1999). Given this research gap, the ubiquitous use of technologies, and the pandemic situation, it is extremely timely to investigate the nature of e-service learning in the field of TESOL. Our research aims to respond to this urgency. Lu et al.'s (2023) study examined the experiences of Mainland Chinese students enrolled at a Hong Kong university who participated in e-service-learning. The focus was on their overall perceptions of e-service learning projects, the learning outcomes they perceived, and the factors influencing their learning outcomes in the Hong Kong context. The results revealed that Mainland Chinese students predominantly harbored favorable opinions concerning their involvement in e-service-learning during the pandemic. They recognized the benefits stemming from the convenience and efficacy of online learning and service endeavors. Nevertheless, there existed a yearning for more direct engagement with service beneficiaries to amplify their reflective processes. The students maintained the belief that their adeptness in problem-solving and grasp of subjects had advanced as an outcome of their participation, concomitant with the experience of personal development and positive sentiments. These findings bear importance in demonstrating the success of e-service-learning as understood by Mainland Chinese students within the realm of Hong Kong universities. Moreover, the investigation accentuates the possibility of e-service learning as a viable avenue for dispensing service-learning initiatives in the period following the pandemic.

Methodology

Research Design

In order to investigate Korean EFL preservice teachers' experiences of e-service learning, we adopted a phenomenological research design in this study. Phenomenological research is a qualitative research method that seeks to understand the meaning of the individual's experiences (Edmonds & Kennedy, 2017). Phenomenological research allows researchers to focus on subjective experiences with an emphasis on the details, including the sensory, emotional, and cognitive aspects of those experiences. It also focuses on identifying emergent themes or patterns in the data, involving a small sample size of participants who have experienced the phenomenon being studied (Edmonds & Kennedy, 2017). In particular, in-depth interviews in phenomenological research enable researchers to discover insights of what the participants think about certain topics of concerns and behaviors (Talmy, 2010). In this study, interviews were especially helpful in understanding the participants' e-service learning experiences and their perceptions of e-service learning.

Context and Participants

This study was situated in the College of Education in Chun University (pseudonym), one of the national universities located in the southern part of South Korea. Since 2021, the Korean Ministry of Education has identified some national universities and supported their College of Education to establish the Center for Future Education. Chun University was selected as one

of them. The first author was invited to join the organizing committee of the Center for Future Education in Chun University. The logistics of establishing and launching the Center included: building smart classrooms and other technology-aided facilities and designing e-service learning programs for educating secondary school students (middle and high school students). In particular, the Center intends to reach local underachieving middle school students who need academic support beyond school. The university organizing committee decided to design and implement e-service learning instead of a conventional form of face-to-face service learning with the consideration of the pandemic.

The e-service learning programs offered at the Center for Future Education in Chun University involved approximately 80 voluntary preservice teachers from nine (undergraduate) teacher education programs in the College of Education (i.e., agriculture, chemistry, computer, English, environmental studies, Korean, math, physics, and social studies). In this article, however, we focus on reporting e-service learning experiences of 23 preservice teachers in English Language Education program where the first author has taught. These 23 participants were interested in becoming EFL teachers in the near future. They were mostly senior students (10 females and 13 males) between 21 and 23 years of age at the time of this research.

Description of an E-service Learning Program

The Center for Future Education and our English Language Education program envisioned this e-service learning program through which (1) the participating EFL preservice teachers would be further equipped with content, technological, and instructional knowledge and skills required for EFL teachers and (2) the participating local middle school students would increase their English proficiency and technology skills. Twenty-three EFL preservice teachers who volunteered to join e-service learning program were individually matched with 23 middle school students in local areas, and they met once a week for 90-120 minutes each for approximately six weeks through a Google Classroom platform. They video-recorded their e-service learning sessions. The EFL preservice teachers created their own teaching materials (e.g., e-textbook[1], assessment, assignments) to teach the local middle school students, while considering learning objectives that were aligned with the standards of Korea's 2015-Revised National Curriculum. The preservice teachers developed a teacher-made textbook for its efficient use following the national curriculum standards. They utilized the teacher-made textbook rather flexibly while considering the middle school students' English proficiency.

Data Collection and Analysis

Data was gathered from multiple sources to better understand EFL preservice teachers' experiences and views in e-service learning. They include preservice teachers' e-service learning logs, recorded videos of online e-service sessions, their reflective reports, and interviews with preservice teachers.

First, we gathered all the e-service learning logs that the preservice teachers composed in English. The participating preservice teachers were inquired to keep a log for each session. They recorded some basic information of each session, including the dates of the e-service learning sessions, length of time, and content of the sessions.

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[1] 'e-textbook' is a complementary resource offered along with the national curriculum.

Second, all the e-service learning sessions were video-recorded, and we gathered a total of 115 recorded e-service learning videos. They were especially helpful in understanding how e-service learning programs were implemented. Figure 1 below shows how a middle school student (left in Figure 1) and a preservice teacher (right in Figure 1) appeared on the screen.

Figure 1
Screenshots of a Recorded E-service Learning Session
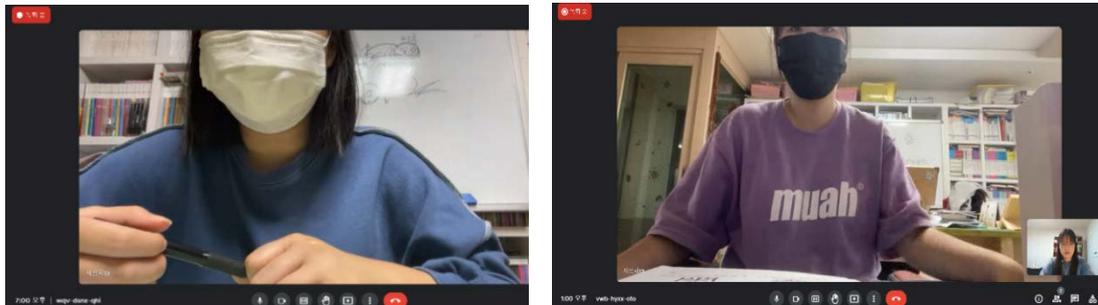
In addition to e-service learning logs and session videos, we gathered 23 preservice teachers' reflective reports in which they wrote about overall content, reflections, and lessons they learned from e-service learning experiences. The participants had a choice for a medium: nine participants created PowerPoint reflections and the rest of 14 preservice teachers produced reflective essays. While e-service learning logs were written in English, these reflective reports were written in Korean.

Once we gathered all the data mentioned above, the first author implemented semi-structured interviews in Korean with six participants who volunteered. She conducted interviews with every participant once or twice for about 20-50 minutes (average 34 minutes) in person or via phone call. The interviews asked more in-depth questions about the preservice teachers' views and thoughts on e-service learning experiences. All the interviews were audio-recorded. Since the interviews were conducted in Korean, they were initially transcribed verbatim in Korean, and later some of the necessary parts were translated into English for the purpose of writing this article. The second author, who is also Korean-English bilingual and biliterate, reviewed the English translation to ensure the accuracy of a translation. We also used the back translation for the quality and accuracy of translation. Finally, field notes were another data source: we wrote the field notes throughout the study, in other words, before, during, and after data collection (e.g., writing field notes right before, during, and after the interviews).

In terms of data analysis, we analyzed the data both inductively and recursively throughout the research. We analyzed the interview transcripts, participants' reflective reports, e-service learning logs, and field notes while following the procedures of qualitative data analysis suggested by some qualitative researchers (e.g., Bogdan & Biklen, 2006; Miles et al., 2019). First, we read all the data and labelled words or phrases that we had highlighted as "benefits" or "challenges." After this initial reading, we categorized excerpts from transcripts, reflections, logs, and field notes. Then, we tried to find some "connecting threads and patterns among the excerpts within those categories" and then search for "connections between the various categories" (Seidman, 2006, p. 124). While constantly rereading the data, we tried to describe the connections we had identified and built themes. Several themes that emerged in our analysis

include teacher identity construction and the social impact of e-service learning. To enhance trustworthiness, we triangulated multiple data sources and data analyses. Informal and formal member checking took place throughout the data collection.

Results
We will report our findings by answering our two research questions. First, we will report benefits of e-service learning that Korean EFL preservice teachers saw from their experience. Second, we will report challenges that they encountered during the e-service learning program.

Benefits of E-service Learning
The overall impression of the e-service learning experiences by Korean EFL preservice teachers was generally positive; they reported that the e-service learning program should be continued for all the parties involved (e.g., Korean school-aged EFL learners, local communities, and preservice teachers in teacher education).

First, one of the most salient advantages of e-service learning was the construction of preservice teachers' identity. It seems that the EFL preservice teachers began to construct their teacher identity through authentic teaching experience in e-service learning. Some of the preservice teachers reported in the interview that they felt like they became a "real teacher" through the e-service learning experience. While teaching local middle school students, they had built rapport with their students and felt more responsibility as teachers and mentors. One participant reflected his experience in working with a middle school student through the e-service learning as follows:

I finally felt like I was a teacher who teaches in a public school [not a private institute]. It was real learning and teaching experience. I felt that we both built rapport and developed the relationship with the mentee throughout the e-service learning period. (Bong-Gi, interview translated, 12/22/2021)

Other participants responded quite similar to what Bong-Gi reported. More specifically, some other preservice teachers felt that they genuinely played a role as a teacher to the middle school students as written in reflective reports:

I encouraged her [the mentee] to be active and challenged. By doing so, I felt that I was building rapport with my mentee as a real teacher. (Tae-Hee, reflective report)
I developed rapport with my mentee by engaging in casual conversations through this online program. It was a meaningful experience for me. (Sung, reflective report)

One critical point here is that many participants had already experienced in teaching English at after-school programs, private institutes like cram schools, or through private tutoring; however, they did not necessarily see themselves as EFL teachers who educate students as whole persons. Their e-service learning experience enabled them to start seeing themselves as educators who teaches English as well as care for other aspects of the students' development (e.g., socio-emotional development, well-being, mental health, and career

exploration). In other words, much of their previous teaching at private institutes seems to focus solely on teaching English to the test while ignoring other aspects of adolescent student development and life. Yet, the e-service learning program enabled the preservice teachers to pay more attention to each student's strengths, needs, identities, and challenges while developing rapport with middle school students and teaching them. Perhaps, previous teaching contexts might have not allowed preservice teachers to consider themselves teachers; however, this e-service learning context offered them an opportunity to start developing their teacher identity.

Second, another benefit of e-service learning is that the preservice teachers recognized that the e-service learning program was helpful in facilitating their teaching-related skills, such as skills required for using emerging technologies as well as engaging in communication, digital literacies, and virtual learning modes. Several preservice teachers specifically mentioned that e-service learning allowed them to improve their teaching skills as below:

This e-service learning program enabled me to develop communication skills. (Sung, reflective report)

By utilizing the Google Meet platform, I think technology enabled us to implement English instruction effectively. It was such a valuable time to experience e-service learning and to learn about digital literacy as a preservice teacher. (Bong-Gi, reflective report)

In addition to improving these important 21st century teaching skills such as communication skills and digital literacies, other participants expressed their improvement of skills to use emerging technologies and engage in teaching online effectively in their interviews:

…Another good thing was technology use. Now, I can implement online learning as needed. (Bong-Gi, interview translated, 12/22/2021)

Along with using Google Meet, I considered making the online session effective and used Epic Pen to help my mentee understand each online session. (Tani, interview translated, 12/10/2021)

Here, the participants showed confidence in manipulating virtual learning modes for teaching and learning English. All these data collectively show that e-service learning helped the EFL preservice teachers to further develop their teaching-related skills.

Third, another benefit and strength of e-service learning is its successful meeting the specific needs of local EFL students. Twenty-three middle school students (often called mentees in this study) participated in the e-service learning program specially for the enhancement of their English proficiency and eventually obtain better grades in English (as a subject). The participating preservice teachers reported that e-service learning made it possible to meet the EFL students' needs. For instance, Sung strongly stated:

It's one-to-one e-service learning, so I was able to offer lessons to meet the learner's needs and check the mentee's understanding right away. It was very individualized.… I think my e-

service learning sessions were successful because I helped my [middle] mentee achieve the basic level of English. I think the e-service learning program enabled us to meet learners' needs and achieve the mission of our university. (Sung, interview translated, 12/18/2021)

Similarly, other participants reflected by reporting that "The e-service learning sessions that I conducted met learning objectives and learner needs" (Nan, reflective report) and "It was very beneficial to offer e-service learning based on learner needs" (Sinji, reflective report). It seems the e-service learning turned out to be beneficial because it not only engaged EFL middle school students in daily English conversation practice, but also helped them improve academic English language, including the improvement of English grammar and vocabulary. Therefore, the participating preservice teachers appeared to perceive that e-service learning can benefit local EFL students for their academic achievement (e.g., academic English).

Lastly, the preservice EFL teachers felt a great sense of accomplishment because they felt that their e-service learning made a social impact, which is another significant strength of e-service learning. They believed that they actually reached out to local communities (e.g., underrepresented EFL students) and made positive connections between the university (an EFL teacher education program) and communities. Some participants pointed out this connection by stating as below:

I'm so honored as an CU [Chun University] student that our English Language Education program participated in the e-service learning program to teach English to local EFL students. We had never had any opportunity to teach English to kids in local communities. This time, we definitely showed that we made some important connections to our society. (Tae-Young, interview translated, 12/21/2021)

I am proud that I contributed to our community by teaching English and interacting with my mentee. (Won-Hee, interview translated, 12/9/2021)

A key characteristic of e-service learning in teacher education is to connect higher institutions to K-12 schools and local communities. Some participating EFL preservice teachers in this study felt that their involvement in e-service learning made a social impact. In fact, they had never felt a sense of social impact of their work. In this regard, e-service learning experience turned out to be meaningful to EFL preservice teachers.

Challenges of E-service Learning
Since this was the first-time implementing e-service learning in the English Language Education program, we expected a wide range of challenges. Yet, interestingly, our data showed that most of the challenges reported were related to the structure or format of e-service learning. Here we report three most salient challenges of e-service learning (i.e., the short duration of the program, the further need for individualized instruction, and technological issues).

The first challenge was the short duration of the e-service learning program. The participants shared their opinions of how to further improve an e-service learning program by addressing the issue of the short duration:

My mentee and I talked about the duration of e-service learning sessions, and we both felt that it's rather short. It may be good if we could add more sessions. (Tani, interview translated, 12/10/2021)

I wish there would be more sessions, at least one more session should be added. I think six to seven sessions for two hours would be appropriate as for successful English language learning. (Won-Hee, interview translated, 12/9/2021)

Both the preservice teachers and the EFL students perceived e-service learning as useful but felt that the program could have been extended.

Second, some preservice teachers wished for the further need of individualized instruction while feeling short of meeting individual differences. Although a preservice teacher and an EFL student mentee had one-to-one individual sessions, a few preservice teachers pointed out the lack of individualized instruction and materials because the primary teaching materials were pre-made textbooks and pre-recorded instructional videos. It seems that some preservice teachers felt ambivalent in that they appreciated the availability of pre-made teaching materials (e.g., e-textbooks and videos), but at the same time, they came to realize that those pre-made materials did not fit to all the mentees with different levels of English proficiency. Such an ambivalence was seen from Tani's interview:

The e-service learning sessions consisted of grammatical exercises, reading comprehension check-ups, and assignments.... The pre-made textbook was the best thing in this e-service learning [because it saved my time to prepare for teaching materials] ... Yet, the textbook may not fit to all levels of students.... So, I wished there would have been more materials designed for different levels of learners. (Tani, interview translated, 12/10/2021)

The final challenge we report here is related to technological issues, which is not very surprising. Of many, the issue of the instructional platform (i.e., the Google Classroom) was most frequently addressed:

Technology issues and system errors occurred. For example, in Google Classroom, the adjustment and automatic savings didn't function. For the assignments and quizzes, I had to record their scores manually. It would be way better if the system of the Google Classroom platform is manageable. (Sung, interview translated, 12/18/2021)

Some preservice teachers wished to use a more stable and well-developed online platform for e-service learning. Here, we address three major challenges reported by the preservice teachers. These findings are very critical because they can provide us with valuable insights into designing and implementing e-service learning in the EFL contexts and even beyond.

Discussion
This phenomenological study explored the two research questions: (1) What are the benefits of e-service learning that Korean EFL preservice teachers experience? and (2) What are the

challenges that Korean EFL preservice teachers face during e-service learning? Here we discuss our findings about these questions in relation to previous research. Our findings and discussion about the benefits and challenges around e-service learning have led to the implications for further research and pedagogy, which will be stated in the last section.

First, this research revealed various kinds of benefits and strengths of e-service learning. The e-service learning program facilitated teacher identity construction and helped improve their teaching-related skills. As shown in the preservice teachers' interviews and reflective reports, interacting with local EFL middle school students through e-service learning influenced the EFL preservice teachers' negotiation and development of teacher identity. For the first time, they felt like "a real teacher" during the program and were greatly motivated to become a better English teacher. In fact, their teacher identity construction was partly attributed to the fact that they felt they met the middle school students' urgent needs to improve English proficiency and beyond. Their role as teacher and mentor was not limited to teaching the English language. Some preservice teachers encouraged the local middle school students to take on challenges for academic success, and they also paid great attention to mentees' well-being as similarly seen in Gedik and Ortactepe's (2017) study. As previous studies (Costello, 2005; Tseng, 2017) revealed, e-service learning turned out to be an important virtual "rehearsal" space (Tseng, 2017, p. 47) where preservice teachers practiced teaching pedagogies and began to negotiate their teacher identities.

Clearly, our findings of teacher identity construction are similar to those from previous research (Gedik & Ortactepe, 2017; Hamel & Ryken, 2010; Tseng, 2017) in that e-service learning offered preservice teachers great opportunities for teacher identity construction. Yet, the research finding about their sense of accomplishment and feeling that they made a social impact through e-service learning is quite a new finding in this research. In other words, some of the previous research (Eyler & Giles, 1999; Selmo, 2015) already found that e-service learning experiences were meaningful to the preservice teachers; however, relatively little research has revealed preservice teachers' sense of making a social impact through e-service learning. The role of e-service learning in making a social impact is worth further exploring in teacher education.

Furthermore, the e-service learning program became an alternative to connecting preservice teachers to underrepresented or isolated EFL students. Higher education (e.g., teacher education programs) is often seen as staying separate and divergent from students and teachers in K-12 schools and local communities. The e-service learning program became a pathway to building committed partnerships between EFL teacher education and local secondary schools and attempted to maximize the mutual benefit for all participants (i.e., the middle school students and preservice EFL teachers). Here, our preservice teachers felt a great sense of accomplishment because they believed that they made an important social impact through e-service learning, which may also lead them to construct a positive teacher identity.

With regard to the challenges of e-service learning, the EFL preservice teachers faced three challenges: (1) its short duration, (2) the need of individualized instruction, and (3) technological issues. First, the preservice teachers perceived the duration of the e-service learning program was rather short for students' learning. This issue can simply be resolved if the higher institution or the program stakeholders decide on the extension of the e-service

learning program for its effectiveness. The second challenge of the need of individualized instruction emerged probably because the sequence of the e-service learning sessions was standardized in this study. In this regard, preservice teachers could start the e-service learning with a needs analysis about mentees and use a main text, along with various supplementary materials. Perhaps, they can design the curriculum together with their students considering the EFL students' needs and interests. According to Dapena et al. (2022), the needs of learners should be considered as one of the priorities regarding e-service learning programs. To resolve the third challenge of technological problems, Waldner et al. (2012) suggested training for technology use in e-service learning. Training for all groups involved (e.g., EFL preservice teachers and EFL students) is critical in maximizing success in e-service learning. Before the e-service program begins, the host institution should offer an orientation session for both preservice teachers and students so that they are not overwhelmed by unexpected technology-related issues. Despite the challenges, e-service learning programs can mirror the reciprocal and reflective nature of service learning. Therefore, it should be essential to establish and develop e-service learning for all the parties including preservice teachers, students, higher institutions, and local communities.

Conclusion

Our findings suggest several important implications for EFL teacher education. The benefits and positive views of e-service learning suggest that higher institutions should consider promoting e-service learning opportunities. In particular, EFL teacher education programs should execute more service-learning (including e-service learning) to their programs. In doing so, EFL preservice teachers can experience more community engagement and make a social impact while learning about community needs and meeting the needs of EFL students and society. Through reciprocity, preservice teachers can develop a sense of belonging and accountability to local communities.

In light of implementing e-service learning, faculty in EFL teacher education should engage EFL preservice teachers in discussing principles, potentials, and possible challenges of e-service learning and invite them to co-construct e-service learning programs. In addition, EFL teacher education can use e-service (or service) learning as a venue for preservice teachers to negotiate or develop their teacher or professional identity. Given that the construction of teacher identity is dynamic and situated (Meihami, 2022; Teng, 2019), EFL preservice teachers should be given a chance to reflect their formation of teacher identity while teaching through e-service learning or teaching practicum. Equally important, preservice teachers should have a space to share their reflections with other teaching professionals (e.g., preservice teachers, inservice teachers, and faculty in teacher education) during and beyond e-service learning.

Finally, the limitations of our research suggest some research implications. While our research mainly focused on examining EFL preservice teachers, we did not examine EFL middle school students in e-service learning. For future research, it will be worth examining K-12 students' experiences in e-service learning. In other words, although the findings from our research give some valuable insights into EFL preservice teachers' views of e-service learning, we do not know about how the local middle school students perceived and experienced e-service learning. Ultimately, it will be great to examine both parties (e.g.,

preservice teachers and K-12 students) in e-service learning and their reciprocal relationship as well. In doing so, we will be able to obtain a fuller picture of e-service learning, which will advance research and practice in EFL teacher education.

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Ethics Declarations

Competing Interests

No, there are no conflicting interests.

Rights and Permissions

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