

Integrating Information and Communication Technology in Higher Education English Language Teaching

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ABSTRACT: In English Language Teaching, the differences in technology integration between novice and experienced teachers may affect the effectiveness of English teaching methods, students' engagement in the class, and overall students' learning outcomes. This study investigated the differences between English novice and experienced teachers' ICT knowledge and use level and challenges. Four novice and seven experienced English teachers working in different high schools volunteered in this study. The researchers employed a qualitative design using a questionnaire and an in-depth interview as research instruments. The findings showed that novice and experienced English teachers were confident in accessing the Internet and using ICT tools. They were well-informed about various ICT tools and techniques for English teaching. The difference was that novice English teachers showed high confidence and innovatively used ICT, whereas experienced English teachers were uncertain and cautious, sometimes relying on students' assistance and considering some aspects such as students' backgrounds and familiarity with ICT. Both English novice and experienced teachers used ICT, including learning websites, search engines, educational games, and multimedia presentations for class discussions, student assessments, brainstorming, and group projects to make the class interactive. This study has implications for English teachers, educators, and future researchers.

Keywords: Experienced teacher, ICT knowledge, ICT tools, higher education, novice teacher

ABSTRAK: Dalam Pengajaran Bahasa Inggris, perbedaan integrasi teknologi antara guru pemula dan guru berpengalaman dapat memengaruhi efektivitas metode pengajaran Bahasa Inggris, keterlibatan siswa di kelas, dan hasil belajar siswa secara keseluruhan. Penelitian ini menyelidiki perbedaan antara Guru Bahasa Inggris pemula dan berpengalaman terhadap pengetahuan TIK, tingkat penggunaan, dan tantangan. Empat guru pemula dan tujuh guru berpengalaman bekerja di sekolah menengah berbeda menjadi sukarelawan dalam penelitian ini. Para peneliti menggunakan desain kualitatif dengan menggunakan kuesioner dan wawancara mendalam sebagai instrumen penelitian. Hasil penelitian menunjukkan bahwa guru pemula dan berpengalaman percaya diri dalam mengakses Internet dan menggunakan perangkat TIK. Mereka memiliki informasi yang baik tentang berbagai perangkat dan teknik TIK untuk pengajaran bahasa Inggris. Perbedaannya adalah guru pemula menunjukkan kepercayaan diri yang tinggi dan menggunakan TIK secara inovatif, sedangkan guru berpengalaman tidak yakin dan berhati-hati, terkadang mengandalkan bantuan siswa dan mempertimbangkan beberapa aspek seperti latar belakang siswa dan kebiasaan dengan TIK. Guru pemula dan berpengalaman menggunakan TIK, seperti situs web pembelajaran, mesin pencari, permainan edukatif, dan presentasi multimedia untuk diskusi kelas, penilaian siswa, curah pendapat, dan proyek kelompok untuk membuat kelas menjadi interaktif. Penelitian ini memiliki implikasi bagi guru bahasa Inggris, pendidik, dan peneliti di masa mendatang.

Kata Kunci: *Guru Berpengalaman, Guru Pemula, Pendidikan Menengah, Pengetahuan TIK, Perangkat TIK*

INTRODUCTION

In recent decades, English language teaching has transformed from a traditional method to a technology-based method. Integrating technology into classroom practice is believed to improve student's learning outcomes, engagement, proficiency, and motivation (Cukur, 2023). Previous researchers have highlighted that technology integration supports collaborative learning, independent learning, personalized learning, and innovative teaching methods (Alamri et al., 2020; Çatalbaş & Solmaz, 2024; Önalın & Kurt, 2020; Singh, 2019). The benefits of integrating technology into English language teaching and learning became inevitable in helping the teachers modify classroom activities and increase the language-learning process (Pandya & Joshi, 2022) where students could do coding, online quizzes, and multimedia presentations; learn another foreign language, and improve their English skills (Rintaningrum, 2023). Ultimately, embracing technology in EFL instruction equips both teachers and students with the necessary skills to thrive in an increasingly digital world, leading to more effective and engaging language learning outcomes.

Responding to the growth of technology, English language teachers must be ready, prepared, and willing to transform enthusiastically in integrating technology into their language teaching (Boonmoh et al., 2021) by developing instructional strategies, classroom management skills (Fani, 2022), and start integrating technology such as using websites, applications, and other technology tools (Taghizadeh & Yourdshahi, 2019). However, some English teachers do not have the time and energy to develop professionally to enhance students' performance (Nazari et al., 2019). Indeed, Muslem et al. (2018) noted that in some small cities in Indonesia, English teachers need to improve their skills in using ICT due to low capacities in applying ICT. Therefore, addressing these issues is essential to empower teachers and improve student outcomes in English language learning, ensuring they are adequately prepared to embrace technological developments in education.

Several studies outside Indonesia have also investigated how novice and experienced teachers perceive technology integration of TPACK or ICT in EFL classes (Ghwela, 2023; Nazari et al., 2019; Wang, 2023; Yermekkyzy, 2022). Nazari et al. (2019) conducted mixed-method research on EFL novice and experienced teachers' perceptions of TPACK. The study's results indicated that novice EFL teachers had higher technology knowledge and use than experienced teachers with high pedagogical knowledge. Experienced teachers preferred different professional development programs customized to their needs. Similarly, Yermekkyzy (2022) found that novice teachers were quickly adaptable to technology integration in enhancing their students' learning performance. In contrast, experienced teachers still lacked confidence and tended to use government-mandated applications in teaching.

Furthermore, several studies have been conducted on technology integration related to English language teaching and learning practices in Indonesia (Hafifah & Sulisty, 2020; Herdina & Ningrum, 2023; Wijaya, 2022). Hafifah and Sulisty (2020) found that Indonesian English teachers in higher education had good ICT skills, and their literacy levels were correlated to their training experiences, internet frequency use, and technology integration in English language teaching. Moreover, a qualitative study of 2 experienced teachers revealed that the impact of further use of ICT by English teachers influenced EFL learners to increasingly transform into more enthusiastic, independent, proactive, and proficient learners (Wijaya, 2022). Similarly, a qualitative study discovered teachers' positive attitudes toward technology integration in EFL classrooms. Teachers encourage students' participation through meaningful learning activities and technology use (Tanjung, 2020). In the current study, previous researchers conducted systematic reviews on teachers' perceptions of technology integration. The reviewed articles showed that EFL teachers who integrated technology positively in the classroom were believed to be able to improve interactive teaching practices, maintain students' motivation in learning English, and ensure the learning process runs smoothly to increase students' enjoyment because the classes were interesting (Akram et al., 2022; Herdina & Ningrum, 2023).

Comparing EFL teachers across different education levels is crucial to understanding teaching effectiveness, identifying professional development needs, enhancing student motivation and language learning outcomes, and promoting reflective practices. Therefore, this present study attempted to find the comparison of technology integration practices and challenges encountered by EFL novice and experienced teachers in the higher education field. This research aimed to answer the two research questions: 1) What are the differences between EFL novice and experienced teachers' technology knowledge, use, and challenges regarding technology integration in the classrooms? 2) To what extent do EFL novice and experienced teachers integrate technology in the classrooms?

The Integration of Technology into English Language Teaching

Technology integration into educational settings has been studied substantially, resulting in sustainable digital transformation, especially in English language teaching and learning (Ahmadi, 2018; Günüç & Babacan, 2017; Ma, 2017). Technology integration is a teaching strategy that effectively transfers teachers' technological, pedagogical, and content knowledge to students (Pierson, 2001; Woodbridge, 2003). Dockstader, (1999) explained that technology integration is using technology to enable students to complete their assignments using technological tools instead of traditional methods. Moreover, Akcaoglu (2008) noted that technology integration combines technological tools and services, such as computer systems and the Internet, in the educational setting surrounded by various subjects, such as curriculum changes and facilities. Briefly, technology integration in educational settings affects the teaching and learning process leading to students' success in language learning (Günüç & Babacan,

2017). In short, integrating technology in English language education is a transformative approach that enhances teaching and learning. By combining technology with pedagogical strategies, educators create an engaging, interactive learning environment to improve student outcomes and increase digital literacy.

Effective learning involves integrating mobile technologies, such as interactive boards, computers, laptops, projectors, iPads, and tablets, with the Internet, Wi-Fi, smartphones, and PDAs to enhance multimedia experiences (Chuma & Kihwele, 2020; Gunuç & Babacan, 2017; Singh, 2019; Tabowei, 2021; Ürün, 2016). Technological tools help teachers increase their language teaching skills, such as communication, creativity in teaching products, and promoting students' self-expression. These studies reported some technological tools have been used in English learning such as learning websites, electronic dictionaries, CALL programs, chat programs, virtual conferences, MALL, digital resources (Basar & Sahin, 2022), online classroom learning platforms, online discussion boards, educational games and applications, and social media (*YouTube et al.*) (George, 2018; Hafifah & Sulisty, 2020; Shadiev & Yang, 2020). Indeed, teachers can provide game-based learning, online resources, blogs, web-based content, and audiovisual content to boost students' motivation, create a pleasant learning atmosphere and develop students' language skills. Besides, gamification platforms like *Socrative*, *Plickers*, *Quizziz*, and *Quizgame* might improve student engagement (Elfiona & Zaim, 2019; Kıyanççek & Uzun, 2022). Furthermore, Maulina et al. (2022) found that technology-based media used in teaching helps teachers improve students' listening skills through Mobile-Based Media, Multimedia, podcasts, Radio News, and Audiobooks. For this reason, in today's context, integrating technology into English language teaching enhances students' digital skills, critical thinking, and proficiency, creating an interactive learning environment that prepares them for a complex world.

English Teachers' Perceptions on Technology Integration in Language Teaching

In the past few years, an increasing number of studies have been conducted on teachers' perceptions of technology integration in educational settings (Chuma & Kihwele, 2020; Hafifah & Sulisty, 2020; Liesa-Orús et al., 2020; Nazari et al., 2019; Önalın & Kurt, 2020). The studies have found the benefits of using technology for English teachers to prepare instructional materials, create teaching materials, and collaborate with colleagues. Teachers use computers for delivery and engagement, while students use technology for problem-solving, product creation, and communication (Önalın & Kurt, 2020). However, some obstacles were still found in integrating technology such as poor internet connections, limited resources, insufficient support and infrastructure, unnecessary teaching practices, lack of online teaching experience, lack of knowledge and skills, and lack of technology training (Akram et al., 2022; Çebi, 2018; Herdina & Ningrum, 2023; Khamprem & Boonmoh, 2019; Taghizadeh & Yourdshahi, 2019). Moreover, a recent study by Boonmoh et al. (2021) showed

that the successful use of technology in EFL classrooms involves stakeholders like students, teachers, and educators.

Furthermore, previous studies have found that English teachers positively perceived technology integration for language learning (Akram et al., 2022; Çebi, 2018; Katemba, 2020; Taghizadeh & Yourdshahi, 2019). The systematic review of five-year studies by Akram et al. (2022) in Pakistan made it clear that teachers positively perceive technology integration at all educational levels, where technology helps teachers make the learning process exciting and interactive and keep students motivated. As found in Katemba (2020), the result also showed that technology helped Indonesian teachers and students improve their language learning ability with help from schools that facilitated the technology. The increasing of technology integration at all levels of education has been found to have positive impacts on English language learning, such as increasing students' motivation, enriching materials through technology needed to provide the best performance in the classroom, expanding creativity and technological skills of teachers and students, collaborative learning, independent learning, and also the opportunity to use multimedia as a new teaching method (Ridha & Fithriani, 2023; Rintaningrum, 2023; Septiyanti et al., 2020). Indeed, technology integration has changed teaching methods from teacher-centered to learner-centered (Septiyanti et al., 2020). Therefore, stakeholders, government, and teachers must work together to provide adequate technological access and facilities for EFL teachers to support their pedagogical practices and provide continuous support, professional development, and promotion of teaching and learning practices (Fitri & Putro, 2021; Nurmala et al., 2023; Tuzahra et al., 2021). In summary, technology integration in English language teaching is seen as crucial for enhancing language learning, making it more engaging and interactive, and boosting student motivation and creativity. Effective technology use can transform teaching methodologies from traditional teacher-centered approaches to dynamic, learner-centered environments.

ICT in English Language Teaching

Information and Communication Technology (ICT) refers to computer-based and network-based technologies for information generation, transmission, processing, storage, and dissemination, including IWBs, computers, laptops, smartphones, office apps, the Internet, CD-ROMs, projectors, digital cameras, and CALL software which are used to create, store, view, and share information (Arif & Handayani, 2021; Çakici, 2016; Murray, 2005; Poudel, 2022). In the EFL context, primary to higher education schools have been using technology-based learning by integrating ICT to provide benefits and opportunities for teachers and students to learn English and communicate with native speakers through ICT tools such as email, social media, and teleconferencing via Skype, Google Meet, and Zoom (Arif & Handayani, 2021; Eryansyah et al., 2019; Önalán & Kurt, 2020; Rintaningrum, 2023). In general, ICT has developed and brought significant changes and contributions to education, including English language learning.

The ICT integration in EFL classrooms contributes to the benefits of students' language learning experiences, motivation, and students' competence (Santoso & Lestari, 2019). Several websites have been designed to teach English to non-linguistic primary students, such as English-language-based news websites, www.breakingnewsenglish.com (Boulahnane & Abramova, 2019), *Rumah Belajar* (<http://rumahbelajar.id/>) for online learning (Ayu & Pratiwi, 2021), FluentU (<https://www.fluentu.com/>), Socrative (<https://www.socrative.com/>), Quizizz (<https://quizizz.com/>), Kahoot (<https://kahoot.com/>), Padlet (<https://padlet.com/>), Memrise (<https://www.memrise.com/>), Mentimeter (<https://www.mentimeter.com/>) for educational purposes (Boonmoh et al., 2021b). In several studies, researchers highlighted that teachers had used several online learning applications, such as Canvas, Google Classroom, Edmodo, Schoology (Famularsih, 2020), Socrative, Kahoot, and Quizizz (Zuhriyah & Pratolo, 2020). Moreover, students utilized digital literacy tools like social networking applications including Facebook, and WhatsApp both in the classroom and at home (Mudra, 2020). It has been shown that ICT tools in education have significantly influenced English language learning, leading to new methods, strategies, and tools in the teaching practice.

RESEARCH METHOD

Participants

This study explored EFL teachers' perspectives at different schools, especially in the high school context, regarding ICT integration in the classroom. A qualitative method used a close-ended survey and in-depth interviews with all the participants. Qualitative research is highly effective in gaining, analyzing, and interpreting EFL teachers' perspectives and experiences (Hancock et al., 2009; Yermekkyzy, 2022). Eleven EFL novices and experienced teachers volunteered for this study. The researchers applied convenience sampling by finding teachers with experiences from different high schools in Indonesia. According to (Dörnyei, 2007), convenience sampling is a common approach in second language studies where researchers select target population participants based on practical criteria such as proximity, availability, accessibility, and willingness to volunteer (Farrokhi & Mahmoudi-Hamidabad, 2012; Stratton, 2021).

All of the participants graduated from the English Education department and had experience with the Indonesian education system and learner profiles. The participants had between one and thirty years of English teaching experience. They were familiar with and had experience using technology in classroom activities and teaching practices. The teachers ranged from 25 to 55 years old. Moreover, the researchers separated novice and experienced teachers. English teachers are defined as novices with less than three years of teaching experience, while teachers who start with three years of teaching experience are defined as experienced (Awang & Shaari, 2021; Graham et al., 2020).

Ethical Considerations

In this qualitative research, the researchers ensured the ethical considerations for the participants. Ethical considerations include participants' anonymity, privacy, confidentiality, informed consent, and professional standards for ethical research (Kyngäs et al., 2020; Laryeafio & Ogbewe, 2023). The participants of this study were volunteers teaching in different high schools around Indonesia. Before collecting the data, the researchers sent the Google Form to the participants, informing them about the study's purpose, benefits, and risks before they agreed or declined to participate. The researchers confirmed that participants' identities remained confidential and that personal data, such as names, were identified using codes to prevent anyone or other researchers from exploiting participants' personal information. Therefore, participants were named "NT" as "*novice teacher*" and "ET" as "*experienced teacher*". Furthermore, the researchers followed the guidelines of ethics in research with humans noted by Bogdan and Biklen (1998) where all of the English teachers understood the nature of this study, the risks, and the obligations involved where they were not exposed to risks greater than the gains they might obtain.

Data Collection Instruments

In collecting data, this study employed two research instruments: a questionnaire and an in-depth interview. The teachers were required to complete the questionnaire on ICT knowledge and ICT activities adapted from Hafifah and Sulisty (2020) regarding their teaching practices and experiences. The questionnaire was divided into two sections: 5 items on teachers' knowledge level of ICT in EFL classrooms and 14 items on ICT activities used by the teachers in EFL classrooms. Moreover, the researcher conducted an in-depth interview with each participant for 20-30 minutes to better understand their experiences and perceptions. There were 12 interview questions adapted from Yermekkyzy (2022) each participant must answer, whereas the in-depth interview will focus on three big themes: English teachers' personal experiences and insights toward technology integration, professional development needs, and future aspirations for technology use. Before the interview, all teachers were allowed to do online or face-to-face interviews. The interviews were conducted at the teachers' workplaces in Yogyakarta. Moreover, the interviews were conducted via Zoom or Google Meet for the teachers who remained outside Yogyakarta. The audio and video results of interviews with the teachers were recorded after obtaining their permission for subsequent data analysis.

Data Analysis

The researchers applied thematic analysis to interpret the data. The thematic analysis enabled the researcher to perceive and analyze common data of participants' shared meanings and experiences. Braun and Clarke (2012) confirmed that in qualitative research, many researchers apply thematic analysis because of its popularity, flexibility, and accessibility, allowing researchers to acquire the necessary skills for other approaches. Therefore, this study applied six

steps from Braun and Clarke (2012) in analyzing the data. The first step involves reading and rereading the data (interview transcripts and responses to the qualitative survey), listening to audio recordings or watching video data, and making notes. In the second step, the data will be identified and labeled by summarizing and repeating each process. In the next step, the researcher analyzes the transformation from codes to themes by identifying the similarities and differences of each data so that the researcher can deeply explore the relationship and interaction among the themes. Then, the themes' quality will be checked and compared to coded data by providing explicit definitions and names. Subsequently, each topic needs to be defined to understand its meanings and determine every data from research questions by summarizing the distinctive features of each theme. Finally, the researcher narrates the analyzed data and produces clear reports by adding complex arguments in a scholarly field.

RESULT AND DISCUSSION

Result

This section presented qualitative results from questionnaires and interviews on teachers' perceptions of ICT integration. Based on data analysis, the findings and discussion will be structured through four main themes: demographic data of English teachers, novice vs experienced teachers' ICT knowledge, the integration of ICT in EFL classrooms, and challenges and solutions in ICT use among novice and experienced teachers. Furthermore, relevant examples of EFL teachers will be shown in the findings in terms of excerpts to support the data

Demographic Data of English Teachers

Demographic data from the participants were collected based on the following categories: age, gender, school/institution, and teaching experiences. The participants were representative of English teachers from different Senior High Schools in cities around Indonesia. The participants' information is presented below.

Table 1. Demographic Data of English Teachers

No.	Teachers' Code	Gender	Age	School	Years of Teaching
1	NT1	Female	25 years	SMAN 1 Embaloh Hulu	1.5 years
2	NT2	Male	25 years	SMA Charitas Jakarta	2.5 years
3	NT3	Female	26 years	SMA Santo Aloysius Bandung	3 years
4	NT4	Female	26 years	SMA Stella Duce Bambanglipuro	3 years
5	ET1	Male	29 years	SMKN 1 Marau	6 years
6	ET2	Female	36 years	SMA St. Petrus Ketapang	12 years

7	ET3	Female	36 years	SMA YPK Pontianak	14 years
8	ET4	Male	42 years	SMA Panca Setya	15 years
9	ET5	Female	51 years	SMAN 3 Ketapang	21 years
10	ET6	Female	47 years	SMA PL St. Yohanes Ketapang	23 years
11	ET7	Female	55 years	SMA PL St. Yohanes Ketapang	31 years

Table 1 shows three male English teachers; one male was a novice teacher, and two were experienced teachers. Of the rest, all teachers were female, including two female novice teachers and five experienced teachers. The minor age of English teachers was between 25 and 26, with teaching experience of 1-3 years. Three English teachers with less teaching experience were considered novice teachers. Moreover, the predominant age of English teachers was 29-55, with teaching experience of 5- 31 years, and they were deemed experienced teachers. The English teachers obtained a Bachelor of English Education, and two received a Master of English Education. All of the participants are still teaching English in high schools around Indonesia.

Novice vs experienced teachers' ICT knowledge level

The questionnaire aimed to understand teachers' knowledge level of ICT in EFL classrooms. Table 2 presents the result of the questionnaire and their ability to use ICT in their teaching activities. The table below showed no significant difference in their knowledge levels.

Table 2. Teachers' Knowledge of ICT

Statements	SA	A	N	D	SD
Teacher knows how to access the internet and get information from the internet	11 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Teacher knows the kinds of ICT tools and strategies that are accessible to be used for teaching practice	5 (45.5%)	6 (54.5%)	0 (0%)	0 (0%)	0 (0%)
Teacher knows how to integrate ICT tools to improve teaching practice and language learning	5 (45.5%)	6 (54.5%)	0 (0%)	0 (0%)	0 (0%)
Teacher has enough experience and ICT training for English	3 (27.3%)	4 (36.4%)	4 (36.4%)	0 (0%)	0 (0%)

language teaching and learning					
Teachers can provide sources and content using ICT that is related to English language learning for students	4 (36.4%)	6 (54.5%)	1 (9.1%)	0 (0%)	0 (0%)

The survey on English teachers' ICT knowledge in EFL classrooms revealed that all teachers (100%) were confident in their ability to access the internet and obtain information. The teachers were well-informed about various ICT tools and techniques for teaching, with 45.5% strongly agreeing and 54.5% agreeing. For statement 3, most teachers knew how to utilize ICT tools such as the Internet to enhance students' language learning, with five strongly agreeing (45.5%) and six agreeing (54.5%). Most English teachers also believed they had sufficient ICT experience and training, with three teachers agreeing (27.3%) strongly and four agreeing (36.4%). However, (36.4%) of teachers (three novice teachers and one experienced teacher) were unsure about their experience level and ICT training for English language teaching. Moreover, most teachers were confident in their ability to provide digital resources and ICT materials for English language teaching, with 36.4% strongly agreeing and 54.5% agreeing.

The interview results of EFL teachers strengthened the survey on ICT knowledge. The teachers shared their ICT knowledge according to their English teaching experience. They also shared the benefits and challenges of ICT integration in English language teaching. The teachers created more English learning content through ICT, and sharing different ICT tools, apps, and websites could boost students' motivation and interest in learning English. For instance, novice and experienced teachers report:

"I always use learning websites, English apps, and games in my classes to build connections and interactive communication with students. I also invite my students to use their phones to check the materials, do interactive quizzes and assignments, and check pronunciation (NT1)."

"I use technology regularly to improve students' English skills, especially their listening and reading skills. However, I still apply the conventional method of writing on paper or speaking orally in front of the class (NT4)."

"I can access the Internet, use ICT tools, and conduct ICT activities. However, I wonder now if I have mastered all of them. I need to learn more as an old-fashioned teacher (ET6).

I am confident in my abilities and skills to teach English using ICT tools and apps. I sometimes ask my students to help me if I have difficulties (ET5)."

In addition, by learning various ICT tools and techniques, teachers can effectively and efficiently provide English language learning for students. They also shared how their first ICT experience affected their current use. The statements were expressed by novice and experienced teachers in the study below:

“As an English teacher, I always use a language-learning app or website. Before teaching I usually test some features to see whether they are effective or efficient for my classes (NT2).”

“My lecturers have always used fun activities by playing games using Quizziz, Kahoot, Socrative, and various English apps during school. Therefore, I am used to using ICT in the classrooms (NT3).”

“I have struggled with all ICT tools and apps in the past. Still, I forced myself to learn by attending the webinar about ICT during the COVID-19 pandemic (ET4).”

“I was very nervous the first time I used ICT tools and apps. I was worried that the internet would get in trouble and the device would not work well (ET3).”

As reported by experienced teachers in integrating technology into their teaching activities, they kept practicing and implementing continuous learning in dealing with ICT. Novice teachers learn about ICT autonomously, while experienced teachers need more webinars or technology training. Therefore, in the survey, there was a point about whether a teacher has received any training courses on integrating and implementing ICT applications in their teaching from their school/institutions. The results of this interview can be seen in the report below.

“No, I haven’t. I learned by myself (NT1).”

“I once joined a free webinar about integrating technology into instructional activities (NT3).”

“I have received some training and free webinars related to technology integration, ICT tools, websites, and apps from my school, especially during the pandemic (ET7).”

“Yes, I have received some in my school. We also have a learning community where teachers can share their knowledge and experiences (ET3).”

The finding discovered that novice teachers relied on self-learning and limited formal ICT training, while experienced teachers benefit from structured, ongoing training opportunities provided by their institutions. Learning communities and peer support also played a crucial role in helping experienced teachers continuously improve and adapt to new technological tools.

The Integration of ICT in EFL classrooms

The participants reported many kinds of ICT activities to assess the students, discuss in class, do exercises and homework, do group activities, make reports or summaries of the lessons, and more. Nowadays, the novice and experienced English teachers in this study tend to depend on English learning websites and search engines that can help them by providing materials or some class activities related to games or exercise. Table 3 displays the various ICT activities employed by English teachers in the classrooms based on a survey of novice and experienced teachers.

Table 3. ICT Activities

Statements	Always	Often	Sometimes	Rarely	Never
Text chatting on WhatsApp/LMS/Instagram/TikTok/YouTube/X	5 (45.5%)	3 (27.3%)	3 (27.3%)	0 (0%)	0 (0%)
E-mail and mail listing	2 (18.2%)	4 (36.4%)	3 (27.3%)	0 (0%)	2 (18.2%)
Online Classroom Learning Platform (Learning Management System)	2 (18.2%)	2 (18.2%)	3 (27.3%)	2 (18.2%)	2 (18.2%)
Educational Games/Apps that can be used for teaching (<i>Wordwall, Quizziz, Kahoot, Quizlet, Padlet, Bamboozle, Educaplay, etc.</i>)	2 (18.2%)	4 (36.4%)	3 (27.3%)	2 (18.2%)	0 (0%)
Online discussion boards (<i>Jamboard, Padlet, Google Classroom, LMS/Moodle, Schoology, Flipgrid, Seesaw, Canvas, Kahoot, etc.</i>)	2 (18.2%)	2 (18.2%)	4 (36.4%)	3 (27.3%)	0 (0%)
Social Media (<i>YouTube, Facebook, Instagram, X, Threads, TikTok, Pinterest, Reddit, WhatsApp, Discord, etc.</i>)	3 (27.3%)	5 (45.5%)	2 (18.2%)	1 (9.1%)	0 (0%)

Shopping online for teaching tools and materials on platforms: <i>Shopee, Tokopedia, Lazada, Blibli, TikTok Shop, Amazon, Etsy, and paid learning apps/websites</i>	3 (27.3%)	1 (9.1%)	4 (36.4%)	2 (18.2%)	1 (9.1%)
Finding materials and resources related to lessons	8 (72.7%)	3 (27.3%)	0 (0%)	0 (0%)	0 (0%)
Preparing Presentations (<i>Canva, Ms.PowerPoint, Google Slide, etc.</i>)	4 (36.4%)	6 (54.5%)	0 (0%)	0 (0%)	1 (9.1%)
Giving tasks/assignments through apps/websites (<i>Socrative, Quizziz, Kahoot, Quizlet, Wordwall, Padlet, Mentimeter, etc.</i>)	3 (27.3%)	2 (18.2%)	4 (36.4%)	0 (0%)	2 (18.2%)
Video conferencing and net meeting (<i>Zoom, Skype, and Google Meet</i>)	3 (27.3%)	2 (18.2%)	1 (9.1%)	1 (9.1%)	4 (36.4%)
Online Dictionary (<i>Oxford Learners' Dictionaries, Cambridge Dictionary, Merriam-Webster</i>)	3 (27.3%)	2 (18.2%)	3 (27.3%)	2 (18.2%)	1 (9.1%)
Blogging	1 (9.1%)	1 (9.1%)	2 (18.2%)	3 (27.3%)	4 (36.4%)
Search Engines (<i>Google, Chrome, Internet Explorer, Mozilla, Safari, etc.</i>)	8 (72.7%)	1 (9.1%)	1 (9.1%)	1 (9.1%)	0 (0%)

A diverse range of ICT activities utilized by EFL teachers in their classroom practice is seen in Table 3. The most common ICT activity was finding material resources, with 72.7% of teachers always participating and 27.3% of EFL teachers often participating. Other frequent ICT activities were web browsing by Google, Chrome, Internet Explorer, Mozilla, Safari, etc.; for classroom-related searches, 72.7% of teachers (n=8) always engaged in this activity, and the rest of the participants chose often, sometimes, and rarely. Then, 45.5% of teachers always use text-based communication platforms like WhatsApp and social media with students on subject matter. In this digital era, 36.4% of teachers (n=4) always, 54.5% often, and 9.1% never prepare presentations on teaching issues and tasks. Moreover, the activities in the classrooms also varied by having educational games, with 18.2% of teachers (n=2) constantly engaging in this activity, 36.4% of teachers (n=4) often, three teachers sometimes (27.3%), and two teachers (18.2%)

rarely use educational games in the classrooms. Despite discontinuing homeschooling post-COVID-19, 27.3% of teachers consistently used video conferencing and net meetings. In comparison, 18.2% of teachers chose often, 9.1% chose sometimes and rarely, and 36.4% never used video conferencing. Some teachers also always shop online for teaching tools, but only 9.1% use them regularly. Assigning tasks through apps was done occasionally, with two teachers (18.2%) choosing never to assign any tasks through apps. Most teachers use online dictionaries occasionally, though some never use them. Blogging is the least used ICT activity, with most teachers rarely or never participating.

More variations of ICT activities and tools were also recorded in the interview with the participants. The differences between novice and experienced teachers can be seen from the interviews. The difference between ICT activities and their use was that young teachers found it challenging to teach without media such as laptops, prepared presentations from Canvas or Google Slides, and games that were always included in teaching activities in class. One novice teacher also said that she felt something needed to be added if he applied ICT activities and equipment when teaching. Technology has become a part of them, as reported below:

“I always try to make my classes fun and exciting by having group discussions and reporting the results in the Padlet or Google Docs or having online games or quizzes to brainstorm before or after the class ends (NT3).”

“Social media such as TikTok and Instagram really help us in learning English. Sometimes, I ask my students to upload their assignments or speaking assessments to their social media accounts (NT2).”

“I still use traditional teaching methods. ICT apps such as YouTube, Wordwall, Kahoot, Padlet, and Google Forms are engaging for city students who are familiar with them, while rural students face challenges due to unfamiliarity and poor internet access. Not all students have the same quality of internet service, which also affects students’ learning progress (ET1).”

EFL novice teachers showed reliance on technology in their teaching practices by utilizing Google Slides, Padlet, and online games to make learning activities engaging. For instance, she prioritized group discussions and quizzes as technology integration in the classrooms. Conversely, experienced teachers balanced the teaching practices with traditional methods and occasional ICT use. They considered students’ different backgrounds, internet access, and familiarity with technology tools. Students from rural areas often need extra time to adapt to the technology and digital tools.

In the interview, EFL novice and experienced teachers shared the ICT apps and websites they used in the classrooms. For example, they express:

“I always use Quizzizz, Kahoot, Wordwall, Educaplay, Socrative, and sometimes Google Forms for quizzes or assignments in my classes. Then, I used apps like Canva, Capcut, Powtoon, VN, PowerPoint, Google Slides, Google Drive, and Padlet to add learning materials. Moreover, I sometimes ask the students to download English learning apps such as Duolingo, Elsa Speak, British Council, FluentU, and other apps to learn English at school or home (NT1).”

“During the COVID-19 pandemic, I mostly used Google Classroom, Google Meet, Google Slide, and Zoom for teaching and Google Forms for students’ tests and assignments. I sometimes use Mentimeter for games and Quizzizz for small tests, and I often use Google Forms for multiple-choice tests. My students often use Canva, Capcut, VN, PowerPoint, and Google Drive links to do their assignments and submit their learning products (ET7).”

Teachers used various apps for quizzes and assignments, including Quizzizz, Kahoot, Wordwall, Educaplay, Socrative, and Google Forms. They also used apps like Canva, Capcut, Powtoon, VN, PowerPoint, Google Slides, Google Drive, and Padlet. During the COVID-19 pandemic, teachers used Google Classroom, Google Meet, Google Slide, and Zoom for teaching, and students used Canva, Capcut, VN, PowerPoint, and Google Drive links. Despite the reliance on technology for novices and the consideration of traditional methods for experienced teachers, there is no significant difference in integrating technology among English teachers.

Challenges in ICT use among novice and experienced teachers

Novice and experienced teachers reported several challenges in ICT integration by filling out the survey. According to the surveys and interview results English teachers face several challenges in integrating ICT tools and activities related to schools’ facility, adaptability, skill gaps, professional development needs, and resource accessibility. The results of the survey are presented in the following Chart.

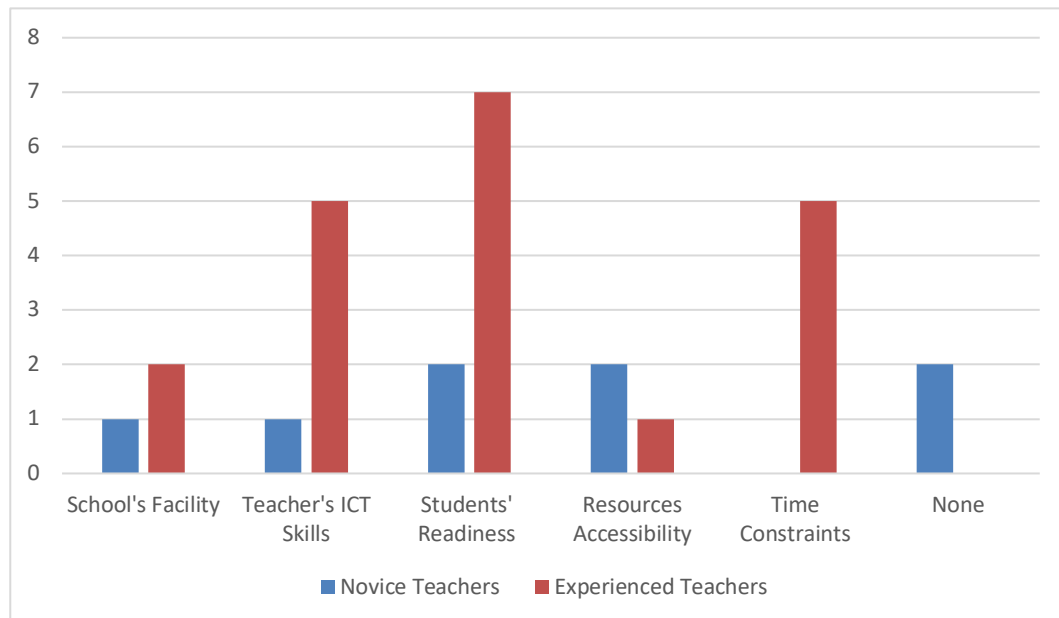


Chart 1. Challenges in ICT Integration

According to Chart 1, two novice and seven experienced teachers reported issues where students' readiness with technology became the main problem in integrating ICT into EFL classrooms. In the interview, several teachers stated that students growing up in the city adapted quickly to using ICT tools. In contrast, other students unfamiliar with technology needed help with ICT hardware and software, especially those who grew up in rural areas. This situation led to time constraints, where teachers and students need more time and effort in using ICT. At this point, the teachers need time and effort to ensure their students participate effectively in EFL classrooms using ICT. In comparison, students need time and effort to use ICT in their English language learning.

Despite students' readiness to learn with ICT, teachers' skills might affect their readiness to deal with ICT. In the chart, one novice and five experienced teachers had problems with ICT skills. In general, novice teachers showed high confidence in dealing with ICT tools and activities, which might be attributable to early technology exposure during their education. Of four novice teachers, only one novice had difficulties integrating ICT, as stated: *"Sometimes I am not confident in ICT activities in my classrooms. I need more time to learn ICT apps and websites."* In contrast, five experienced teachers struggled with new technologies, especially in the COVID-19 pandemic era. One experienced teacher stated *"Sometimes I still ask my students to help if I have difficulties using ICT tools. Therefore, I still use traditional methods in teaching without involving any ICT activities."* Consequently, the gap in ICT skills leads to reliance on students' assistance in using new tech tools.

Although most teachers agreed that they integrated ICT into their teaching practice, a novice teacher and two experienced teachers reported school's facilities became a problem in ICT integration. Some teachers reported that their

schools need to have all of the facilities to support ICT integration, especially those in rural areas. One novice teacher who teaches in a rural area stated:

“In my school, the computers, internet access, and other ICT tools are incomplete. Only a few students have laptops, and some of them have smartphones, but the school's internet connection does not support them (NT4).”

On the other hand, this situation also happened to two experienced teachers who both taught in rural areas at different schools. One of the teachers stated,

“I am a digital immigrant in this educational era, I find it difficult to integrate ICT into my teaching, especially with inadequate school facilities. Every time we want to use an LCD projector, we have to go to a special room that has an LCD projector so that I can give presentations via Google Slides or PowerPoint. It is not very easy for me and the children because we have to move every time we want to use technology-based tools (ET1).”

The availability of schools' facilities for ICT tools and software challenged some teachers to integrate technology into their classes. It can be seen in Chart 1 that this problem also led to resource accessibility, where teachers found it challenging to ensure all of the students got the same internet access to learn with ICT. Besides, limited access to the internet due to poor or unavailability of internet connections is still found in the teachers' reports. Not only teachers but also students faced challenges in accessing necessary resources and ICT tools.

Discussion

The study explored the differences in ICT knowledge, use, and classroom challenges between EFL novice and experienced teachers and to what extent they integrate ICT in the classrooms. Technology integration is acknowledged to have a significant role in English teaching and learning, supporting teachers and students in accessing the materials, practicing a new approach to teaching the English language, and assessing and managing the students (Chuma & Kihwele, 2020). The survey on ICT knowledge of EFL teachers in the EFL classroom revealed that all teachers, both novice and experienced teachers, were confident in their ability to access the Internet and obtain information. The teachers were well-informed about various ICT tools and techniques for teaching, they knew how to utilize ICT, such as the Internet, provide digital resources and materials, use learning websites and apps, and use online games through ICT tools in their English language teaching. However, novice teachers demonstrated high confidence and adaptability in integrating ICT due to early exposure during their education. Thus, this result is consistent with Hafifah and Sulisty (2020), English teachers are now more skilled and motivated to integrate more ICT activities into their classes.

Nowadays, English teachers are increasingly proficient in ICT, internet access, technology tools, digital resources, and training to enhance language learning (Dash, 2022; Hafifah, 2020). The school's involvement and adequate training in technology integration also supported the development of teachers' technological skills. There was no significant difference in the utilization of ICT in the EFL teaching practice of novice and experienced teachers.

The result also showed that novice and experienced teachers provided more English learning content through ICT. They used various ICT tools, including English learning websites, search engines, educational games, and multimedia presentations such as Google Slides, Canva, and PowerPoint. Novice teachers are found to integrate ICT to prepare the lesson and create content, and educational games such as Quizziz, Kahoot, Wordwall, and Padlet to enhance students' interest and motivation in learning English. They used ICT for more aspects, such as student assessments, class discussions, brainstorming, and group projects, to make the class more interactive classrooms environment. ICT utilization was believed to help teachers in conducting student assessments, evaluating students' progress, organizing team projects, supporting peer learning, and building positive e-learning environments (Castillo-Cuesta et al., 2022; Samoilenko et al., 2022; Younis, 2024). However, despite their reliance on technology, the study found that novice teachers still employ traditional teaching methods for specific skills, such as writing on paper and speaking orally in front of the class. The use of media that considers both theoretical and practical essences has been underlined in recent research by Febriansyah et al. (2024) who found that teachers can use mixed methods by leveraging the strengths of traditional and digital media to create a dynamic and inclusive learning environment.

Besides, experienced teachers commonly used Google Slides, PowerPoint, and Canva to present the English materials and shared Google Forms, *Quizziz* or *Mentimeter* to assess students' performances. The experienced teachers applied ICT selectively by considering students' needs and backgrounds and combining it with traditional methods. Moreover, ICT is less frequently used by experienced teachers in this context, especially for teachers who work in rural areas, considering the internet access and students' ICT skills. In line with that, a previous study found that teacher competency, ICT resources, classroom environment, and university facilities positively impact academic performance and student engagement (Hanaysha et al., 2023). The impact of using ICT in the classrooms for students was discovered in a study by Ullah and Anwar (2020), in which students agreed that ICT integration involving interactive and collaborative activities affected their language learning experience and engagement.

Even though all teachers integrated ICT effectively into their English language teaching, there were still challenges in integrating ICT tools and activities related to schools' facilities, time adaptability, skill gaps, professional development needs, and resource accessibility. The main challenge in integrating ICT was students' readiness with technology. Problems do not only occur to teachers but also to English learners. The difference here is that students are

usually more adaptable to technology-based language learning if they are exposed to technology from a young age. Additionally, five experienced teachers needed help with their ICT skills as a teacher. They faced challenges with ICT tools and activities during the COVID-19 pandemic because they were not exposed to technology early. Several factors might be attributable to their ICT skills, including inadequate school facilities, time adaptability, skill gaps among students, limited time to learn ICT, the need for professional development, and accessibility of resources. The result aligns with previous studies where unsupported ICT infrastructure and teachers' low ICT knowledge and skills impact efficient teaching practice. It is agreed that most old-generation teachers need advanced professional development training regarding technology utilization to transform into modern teachers (Rana & Rana, 2020).

Lastly, the survey results also showed a significant problem that still occurred was an unsupported internet connection. This situation is in line with the result of previous studies that teachers often face challenges related to resource accessibility, such as internet connectivity issues, and may need to balance the use of ICT with traditional methods to accommodate diverse student needs (Khodabandelou et al., 2016; Nugroho & Mutiaraningrum, 2020). Learning communities and peer support play an essential role in helping experienced teachers continue to improve and adapt to new technology tools.

CONCLUSION

This study concludes that novice teachers have high confidence in integrating ICT tools with fewer challenges in the classrooms. Novice teachers gained confidence due to the benefits of the earlier exposure that young teachers get in school to adapt to new technologies quickly. Meanwhile, experienced teachers were found to be more careful and selective in applying ICT and more often asked for help from students in using technology because they considered that the younger generation is more expert in dealing with the latest technology. With this consequence, collaboration between novice and experienced teachers can be done to eliminate the gap in the integration of ICT in the teaching process so that it can improve the effectiveness and efficiency of ICT integration as a whole in English language teaching. Collaboration between novice and experienced teachers can boost English teachers' confidence and increase their professional development and teaching practices to create a supportive learning environment and share responsibility for student success.

Furthermore, this current study has several important implications. First, early technology introduction to higher education students enables English teachers to integrate ICT effectively into classroom learning. Second, schools or institutions can provide technological training for teachers to gain professional development. Last, collaboration between novice and experienced teachers could be done by introducing them to engaging and effective technology related to English learning content and materials. Although this present study presents data about Indonesian EFL novice and experienced teachers' experiences and

perceptions of ICT integration, the limitation is acknowledged. The lack of participants and inequality of novice and experienced teachers in this research could limit the broader and more profound results of ICT integration among novices and experienced teachers. Therefore, future research might explore the relationship between EFL teachers and high school students in Indonesian education by examining ICT integration in classrooms.

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