Augmenting Seasoned English Language Teachers' ICT Skills through a Service-Learning Activity-based TPACK

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Abstract

Due to the emergence of ICT in ELT sector, seasoned English teachers find it resistant to such a shift despite having a positive attitude towards its use. This quasi-experimental study aimed to examine the extent to which seasoned English language teachers developed their ICT skills through a Service-Learning Activity (SLA). Using a one-group pre- and post-test design, this study collected the data through a modified Needs Assessment Survey (NAS) distributed to fourteen purposively selected participants. It was administered to examine what professional ICT development would greatly benefit them. The data were analyzed using descriptive statistics and themes according to the Service-Learning Activity (SLA) topics. A Post Evaluation Survey (PES) was administered, and its result was compared to the initial test. The results showed that the seasoned teachers gained significant learning gains in terms of (1) sharing of knowledge from other teachers; (2) being encouraged to use ICT tools; (3) training opportunities; (4) working with other colleagues; and 5) attending professional workshops which include SLA. However, this study unveiled that the English teachers had no significant difference in perceptions regarding the roles of computers in teaching before and after the intervention. Limitations and recommendations for future studies were discussed.

Keywords: *SLA, seasoned teachers, quasi-experimental, ICT*

INTRODUCTION

With the advent of technology impacting all walks of life, the education sector is also witnessing a paradigm shift (Agayon et al., 2022; Perienen, 2020; Tri & Nguyen, 2014). With this, Information and Communication Technology (ICT) has become a global need for most people. As Wardani et al. (2020) emphasized, students must master 21st-century competencies, which include the development of their ICT skills, as these skills are beneficial for their workplace in the future. Many schools have started to employ ICT to teach, manage, and enhance students' digital literacy. Considering that ICT in education is extensive, the roles in education must not only focus on information dissemination and a tool for understanding the curriculum (Kursch, 2021). These must be connected to various teaching methods in application to existing philosophies (Siemens, 2005). As aimed, ICT in education must 1) implement a life-long learning/education principle, 2) increase a variety of educational services and mediums/methods, 3) promote equal opportunities to obtain education and information, 4) develop a system of collecting and disseminating educational information, 5) promote technology literacy of all citizens, especially for students, 6) develop distance education with national content, and 7) promote the culture of learning at school (Sharma et al., 2016).

Moreover, ICT became favorable when distance education suddenly became the only choice for learning due to the current continuum of overriding dilemmas in education systems, especially in today's pandemic. It was suggested then to use ICT forms like videos, television, and multimedia computer software that includes text, sound, and colorful, moving visuals to engage students in the learning process. The aural-visual combination can instantly spark learners' interest in abstract subjects when used in conjunction with the textbook and syllabus' instructional or learning methodologies (Sharma et al., 2016).

In the classroom, ICT adds value to learning processes with the acquired competencies developed as teachers incorporate them in facilitating productive, collaborative, and engaging discussion. Gaining importance are the following competencies like a) critical thinking, b) decision-making, c) handling of dynamic situations, d) working as a member of a team, and e) communicating effectively (United Nations Educational, Scientific, and Cultural Organization, 2002). Teachers also apply technology to facilitate various practical assessment and evaluation strategies to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.

Regardless of the efforts to integrate ICT into teaching, it must be understood that as technology rapidly advances, it also applies to ICT as it develops (Tri & Nguyen, 2014). With this, teachers must be flexible to adapt to the changes in coping with the trends and updates. Because it is truly necessary to educate the students for 21st-century jobs, the teachers are responsible for teaching the necessary skills to their students. As a result, teachers must also equip themselves with the necessary abilities and skills, particularly in ICT-integrated instruction (Wardani et al., 2020). However, some of the education administration and other stakeholders experience problems (UNESCO, 2002), considering that many of their teachers have negative perceptions and attitudes towards ICT integration (Pelila et al., 2022), especially on the part of seasoned teachers. Raman and Yamat (2014) mentioned that these kinds of teachers struggle to use ICT tools since they prefer traditional teaching methods. Also, with their hesitancy to attend programs such as seminars and workshops on ICT, they were not updated to learn new skills which could benefit them and their students. Pelila et al. 's (2022) review of previous studies complemented this, saying that if they are not exposed to technology integration and less or no one helps them, they will undoubtedly have a negative attitude and continue teaching using traditional means. With no immediate intervention, they will end up pressuring themselves to learn about ICT or apply technological tools in their classes, which they do not want initially.

Though eventually, ICT aspires to give a plethora of options that address such difficulties (Lawrence & Tar, 2018), one way to positively change teachers' attitudes and perceptions is by introducing a training and workshops. Pelila et al. (2022) emphasized that there are reasons why teachers are confident in using technology in the classroom, and this is because they have gained sufficient knowledge in these training programs, which improves their capabilities. In addition, if teachers become more involved in technology, it translates to the substantial possibility of successful technology integration. Hence, with enough training, this can build relevant technology skills to become quality teachers.

However, the implementation of training is not enough to help teachers; they must be supported in integrating digital technology and need full scaffoldings to learn and maximize the software's features (Pelila et al., 2022). Also, the complexity of integrating ICT in learning and teaching leads to using different frameworks. Trinidad et al. (2005) supported this by saying that frameworks can be used to support, describe and promote good practice in the use of ICT in learning and teaching in schools and are multi-faceted and flexible enough to be used in teaching. In particular, in the case of English Language teachers, the TPACK framework is widely used as this can facilitate the effective use of

technology by the teachers, particularly in correlating their knowledge in the areas of technology, pedagogy, and content and how they use different technological tools in teaching English subjects (Debbagh & Jones, 2015; Elas et al., 2019).

In a nutshell, studies attested that seasoned teachers were having problems due to the hesitancy to integrate ICT into their teaching as affected by their negative perceptions and attitude and even their lack of training (Pelila et al., 2022; Raman & Yamat, 2014; Tri & Nguyen, 2014). With this, there is a need to capacitate seasoned teachers to introduce new skills and lessen their fears of trying and using any ICT tools. As part of the experiment of the present study, the researchers (who are both graduate students and teachers) conducted an initial survey of some seasoned English Language teachers of the schools or institutions which they are affiliated with. They were asked to self-assess seasoned teachers' proficiency level in computing technologies. It was found that most of them are in between the beginning level and can perform basic functions in a limited number of computer applications but still require assistance at an average level wherein they can demonstrate a general competency in some computer applications. These were the factors why the researchers conducted a Service-Learning Activity (SLA) for these seasoned teachers. Also, since the pre-assessed teachers are teaching English subjects, the researchers made a consensus for sharing the TPACK framework since this was widely used as a model to guide teachers in facilitating their teachings involving technology in their English subjects (Debbagh & Jones, 2015; Elas et al., 2019).

Henceforth, this study aimed to augment the ICT skills of seasoned English Language Teachers through a Service-Learning Activity using TPACK as a framework. Specifically, the researchers sought to answer the following questions:

1. What professional development on ICT integration would benefit seasoned teachers?
2. To what extent did internal and external influences affect how the seasoned teachers used the technology in teaching practice?
3. Was there any significant difference in the perceptions of seasoned teachers before and after the intervention on the importance of technologies in teaching according to their years of service?

LITERATURE REVIEW

Teachers can be mainly differentiated based on their age (Ginschel & Schlüter, 2020; Mohd Ismail et al., 2018; Sivasakthi Rajammal & Muthumanickam, 2012) and years of teaching experience (Araujo et al., 2016; Ginschel & Schlüter, 2020; Graham et al., 2020;

Kini & Pololsky, 2016; Mohd Ismail et al., 2018). However, some terms must be clarified and updated, especially for seasoned teachers.

In general, "old age" refers to the state of a person growing old, while "aging" refers to the process of growing old. In education, telling instructors that they are old is discouraged. They preferred to be called veteran educators. Besides, age and teaching experience were used to identify these experienced teachers (Ginschel & Schlüter, 2020).

In terms of age, Sivasakthi Rajammal and Muthumanickam (2012) identified that seasoned teachers are above 40 years old. Younger teachers are 30 years old and below, and those between 30 to 40 years old are called mature or middle-aged teachers. Additionally, these teachers are described as distinguished or experienced teachers. For example, experienced teachers have over seven years of experience (Kini & Pololsky, 2016). However, Graham et al. (2020) determined that these teachers had five years of experience, while Araujo et al. (2016) stated that three years of experience is sufficient. According to Kini and Pololsky (2016), teachers with 20 years of teaching experience outperform the most effective first-year teachers. Because even new instructors can gain experience, there is inadequate evidence to link the term experienced to seasoned teachers. Graham et al. (2020) stated that there is insufficient data to show that experienced teachers are better than new ones. There is no evidence that new teachers are less effective (0-3 years of experience). Teaching quality declined for teachers with four to five years of experience. In a recent study, Mohd Ismail et al. (2018) found that teachers' age and experience influenced their efficiency in teaching Higher Order Thinking Skills (HOTS). Thus, teaching experience does not determine learning effectiveness.

Uzorka (2021) emphasized that effective teachers must be familiar with using technologies in their subjects. This emphasis means they must become transformative teachers who effectively integrate ICT into the learning process. Nevertheless, teachers' challenges increase with age. Raman and Yamat (2014) concurred that citing teachers' age is one of the seven hurdles to ICT integration. The age status of teachers hampered their ability to use ICT in their lessons since they disliked using computers due to the technicalities they needed to learn. As added by Timothy and da Silva (2022), the teachers were too old to master new teaching approaches and were content with the ones they already knew how to use. These teachers chose to settle only on involving the students through games as they believed that it could make students happy and excited to study, learn experiences, share knowledge, and exchange skills with their friends, which makes them learn well (Sulistyawati & Warpindyastuti, 2018). Another stigma among teachers why

they were quite pessimistic towards the prospects of ICT integration into the classroom is that it had various limitations, such as what Timothy and da Silva (2022) enumerated - the lack of available facilities and limited learning outcome assessment methods.

Other studies found that gender disparities between focus groups, rather than the age or teaching experience, influenced ICT integration into the classroom (Saleh Mahdi & Sa'ad Al-Dera, 2013). Insufficient awareness of ICT tools' mechanics and features hampered the inclusion of ICT-integrated lessons in the training of experienced teachers. The absence of ICT training also impeded participants from adopting ICT into their teaching.

In consideration to address such concerns, the need for training to motivate and inspire teachers to use ICT in their classrooms was urged (Raman & Yamat, 2014) as scholars frequently focused on teachers' perception of online learning in general (Timothy & da Silva, 2022), especially for seasoned teachers who usually resist change (Raman & Yamat, 2014) in today's rapid change and development of technology (Tri & Nguyen, 2014) even if they believe that tackling these challenges will improve educational achievements. Furthermore, one training teachers can undergo to develop their ICT skills is the Service-Learning activity (SLA). By definition, SLA can be described as an educational approach where students learn the theories in the classroom and later volunteer to share what they have learned as they want to deepen their understanding of what is being taught (Afzal & Hussain, 2020; Elmhurst University, 2022).

Like typical webinars or workshops, SLA can also cover a half-day session or more. Furthermore, conducting SLA for concerned participants who struggle with ICT and have some technology-related problems must be retooled with the needed ICT literacy abilities. Also, these tools are considered educational as they will help teachers integrate technologies into their classrooms. Additionally, since reassessing and recalibrating the education curriculum is practically difficult, ICT integration frameworks and models can be established to aid in conducting SLA.

Theoretical Framework

This study was anchored on the theoretical framework of technological pedagogical content knowledge (TPACK), which was initially constructed from the pedagogical content knowledge (PCK) framework built by Lee Shulman (Mishra & Koehler, 2006). This framework is represented with a conceptual model showing the "connections, interactions, affordances, and constraints between and among content, pedagogy, and technology" (Koehler & Mishra, 2009; Mishra & Koehler, 2006). Also, the interplay of various bodies

of information in TPACK, both conceptually and practically, yields the kind of adaptable knowledge required to integrate technology successfully in the classroom (Mishra & Koehler, 2006). This necessitates teachers to understand ICT applications to classroom contexts where it should level, or if not, totally resolve the inherently problematic level of competencies (Mishra & Koehler, 2006) in classroom technology among teachers.

Moreover, using TPACK enables teachers to select appropriate ICT tools to enhance what they teach and how they teach. In addition, the right ICT tools boost teachers' confidence to enhance their teaching approaches, eventually leading to higher and more effective productivity rates. However, it must be understood that TPACK is complex considering that the teachers' knowledge of technology integration is affected by several factors like the rapid development of technology, curricula, the background of the students, and even age (Fransson & Holmberg, 2012). That being said, TPACK is continuously developing; hence, this framework also adjusts to the changes happening over time.

As mentioned, technology, which includes ICT, has been the aid of education to deliver quality service of teaching and learning. But due to the rapid developments, the education stakeholders have been trying their best not to be left behind, so they always make sure to deliver updates, trends, pedagogies, and new curricula to their students. However, problems were seen on the part of the teachers (particularly seasoned teachers) due to their hesitancy to integrate technology into their teachings. Possible reasons are their preference to use traditional means because they are used to it or their encountered struggle in not knowing how to navigate such ICT tools. Thus, the present study wanted to determine the problems some seasoned English language teachers experienced in ICT integration in their teaching. By knowing their problems, the researchers of the present study would know how to assist these seasoned teachers through SLA (Service-Learning Activity) as professional development with the help of TPACK as their framework.

METHOD

Research Design

The researchers utilized a quasi-experimental study, specifically a one-group pretest-posttest design. Generally, a pretest-posttest method was employed in both experimental and quasi-experimental research. Though it was highlighted that the said design in quasi-experimental may or may not include control groups, experimental pretest-posttest designs must include control groups (Hilmer, 2010). Moreover, this quasi-experiment tends to give an outcome of interest after conducting two measures – once

before and after exposing a non-random group of participants to a particular intervention or treatment (Choueiry, 2021; Omilion-Hodges, 2017). In the present study, a Service-Learning Activity (SLA) was the intervention used.

Participants

The targeted respondents were seasoned teachers (n=14) currently teaching English. The group consisted of both male (n=1) and female (n=13) participants. They came from Primary Schools (Kindergarten to Grade 6) in both private (n=4) and public (n=9) and in a private Senior High School (Grades 11 - 12) (n=1).

Also, they were purposely selected based on their age and teaching experiences. This was anchored on the criteria mentioned by Sivasakthi Rajammal and Muthumanickam (2012) in terms of age that they must be at least 40 years and above, while Kini and Pololsky (2016) mentioned that the target respondents must have the said number of years of experience which is at least 20 years or more to be called 'experienced.' In the present study, their ages ranged from 40 to 59, with the average being 49. Per their years of teaching experience, these range from six to 37 years.

Surprisingly, it was revealed that not all seasoned teachers in the present study have more than 20 years or more of experience, as disproved by Kini and Pololsky (2016). Even teachers in their 40s have less than 20 years of teaching experience. This can be reasoned out by personal, educational, family, and other circumstances.

Data Collection and Analysis Methods

Needs Assessment Survey (NAS)

The tool lifted from the needs assessment used by O'Reilly (2016) in the "Developing Technology Needs Assessments for Educational Programs: An Analysis of Eight Key Indicators" was modified and adopted in the present study. After modification, three sections were made corresponding to the three research questions of the present study. The reliability test was tested using Cronbach Alpha with a result of 0.69. Any values in the range of 0.60 - 0.80 are considered moderate but still acceptable (Daud et al., 2018).

Post Evaluation Survey (PES)

For the post-survey, the "Perceptions on the importance of computers in teaching five years ago, three years ago, and this year" (RQ2) and "Importance of both internal and external influences on how seasoned teachers use technology in teaching practice" (RQ3). These two were obtained in the Needs Assessment Survey (NAS) to compare their significant differences after conducting the SLA.

The researchers followed the three main procedures mentioned by Choueiry (2021), namely: (1) pre-intervention measurement, (2) intervention, and (3) post-intervention measurement, in conducting quasi-experimental research, specifically a one-group pretest-posttest design.

Pre-Intervention Measurement

The researchers surveyed the needs assessment of the target respondents. The researchers sent signed letters to the designated authorities asking permission to conduct the survey. Upon approval, the researchers forwarded the letters to the respective schools where the respondents are affiliated. The letter also included the link for the needs assessment survey (NAS).

After receiving and analyzing the data of the NAS, the researchers made a consensus that the topics for the intervention (i.e., Service-Learning Activity) were identified based on the initial results. These were: (1) Learning about research sources on the internet, (2) Integrating technology into classroom activities, and (3) Learning to integrate technology for homework tasks.

Preparations were also made using Fadlelmola et al. (2019) guidelines for executing an event similar to the current study's intervention. After receiving the NAS results, the researchers began planning the activity involving regular conferences through Google Meet. They used Telegram and Facebook Messenger for regular communication. Also, the planning focused on the seasoned teachers' technology needs, and an SLA was developed to assist them. With these, the researchers made ICT-related activities for the participants and prepared the ICT tools to be used.

Knowing that integrating technology into the classroom is difficult, poorly organized, and filled with difficult duties while also taking into account the difficulties that more recent technologies pose to teachers, Koehler & Mishra (2009) proposed that teachers must devise fresh and new tactics for recognizing and adapting this complexity if they are to comprehend the approaches to successful technology integration. Designing such Service Learning is tedious, especially if it aims to help teachers truly connect among the three domains (i.e., technology, pedagogy, and content) of knowledge in TPACK could facilitate effective teachers' use of technology and how they incorporate these with technology tools in teaching (Koehler & Mishra, 2009; Mishra & Koehler, 2006), especially in the English subjects (Debbagh & Jones, 2015; Elas et al., 2019). So as for the framework, the researchers utilized TPACK (Technology Pedagogy Content Knowledge) to emphasize the main subject. This framework also helped decide what technology tools to use based on the

ICT needs of the seasoned teachers. As per the topics the teachers wanted to discuss, the researchers agreed to introduce Flippity, Loom, Canva, Google Forms, Rubistar, and other Online Research Tools. These tools were chosen because of their adaptive functions, variety of features, and ease of use. In the planning, the researchers utilized Google Jamboard and Google Docs to organize their work. Later, the researchers planned the flow of events like a) activity time, b) program segmentation and distribution, and c) identifying speakers and facilitators. Hence, a program paper was made to structure the activity, including the course title, description, duration, topic, session objectives, methodology, evaluation procedures, outputs, resource persons, and learning facilitators. Also, a material checklist was created to track and organize duties efficiently. Lastly, a dry run for the SLA was set up, and the researchers tested the software applications to avoid technical errors.

Intervention Measurement

Two plenary sessions were prepared for the SLA. The first plenary session focused on the "Functional Learning Technology for Synchronous and Asynchronous Classes," which was divided into two parts: (1) Flippity and Loom Integration and (2) Using Features of Canva for Education and Google Forms in Creating and Designing Task-based Activities for Students. On the other hand, the second plenary session focused on "Finding and Using Appropriate Online Research Sources."

At the outset, an overview of 21st Century Education was introduced, highlighting the standards and frameworks supporting technology integration in education. In the case of the intervention made, TPACK was emphasized. Tools like Flippity, Loom, Canva, Google Forms, and Rubistar were discussed, and some applications were made.

For the second plenary session, one of the facilitators introduced the appropriate online sources that teachers can use as references. These resources were the following: a) Teaching English (can provide access to songs, poems, and stories), b) American English (can provide resources and activities for teaching the four macro skills), c) Project Guttenberg (can give access to free ebooks), and d) Reading Rockets (can provide materials for reading especially for struggling readers). In addition, the facilitator introduced some trustworthy resources for writing academic research papers, such as Mendeley, Google Scholar, Creative Commons, and Open Access Research Papers. Afterward, the Mentimeter application engaged all participants and shared their reactions to the training.

Post-Intervention Measurement

After wrapping up the intervention, the Post Evaluation Survey (PES) was forwarded to the participants via Google Forms to be answered. Data collected were handed

to a statistician for analysis and interpretation. In detail, the first question (RQ1) was analyzed by computing the 'mean'. Percentages were indicated, and interpretations were identified. In addition, the data was ranked to know professional development. This became the basis for creating the topics during the SLA. For the second (RQ2) and third (RQ3) questions, the data were processed using a t-test for dependent data to compare the pre-intervention to post-intervention. Later, interpretation and discussions were also given to support the computed data.

Ethical Consideration

The entire process of this study was steered from the ethical considerations in the research mentioned by Fleming and Zegwaard (2018) in their study entitled "Methodologies, Methods and Ethical Considerations for Researching Work-integrated Learning."

First, the present study informed the respondents about the Service-Learning Activity (SLA) through a letter sent to the principals of the schools. Consent was also asked to conduct the pre-intervention and post-intervention. Second, the researchers ensured all participants' identities were kept confidential. Hence, no names of schools and participants were mentioned. Lastly, the researchers declared no conflict of interest in the present study. This means that no prior or other activities were conducted similar to or related to the said study.

Regarding the adopted survey questionnaire used in the present study, the researchers asked permission from O'Reilly (2016), the author, and permission to use and modify it was granted.

FINDINGS AND DISCUSSION

Overall, the SLA conducted by the researchers for the seasoned teachers was a success. There was active participation with the seasoned teachers from before to after the intervention, as evident during the activity. This can be reasoned out that conducting such training should be worked out together by both participants and facilitators to deepen their ICT integration through increasing co-mentorship, self-determination, and peer support (Pegler et al., 2010). Additionally, using the TPACK framework, the researchers could smoothly deliver the topics using the different selected ICT tools. This agreed with the previous authors stating that such frameworks can support and guide in promoting good practices in using ICT, especially the TPACK framework (Debbagh & Jones, 2015; Elas et al., 2019; Koehler & Mishra, 2009; Mishra & Koehler, 2006; Trinidad et al., 2005).

To address the research questions, the researchers provided three subsections below to provide the findings and discussions of the present study:

Perceived list of professional development on ICT integration that was beneficial according to the seasoned teachers

Table 1

List of Professional Developments Beneficial to the Participants for the Service-Learning Activity

No.	Professional Development	Mean	Percentage	Rank	Interpretation
1	Managing my computer desktop (opening programs, printing, etc.).	2.86	95.24	4	Great Influence
2	Learning to utilize network services efficiently (email, saving to the server, finding files, etc.).	2.86	95.24	4	Great Influence
3	Learning about research sources on the internet.	2.93	97.62	1	Great Influence
4	Integrating technology with student writing.	2.79	92.86	7	Great Influence
5	Integrating technology into my classroom activities.	2.93	97.62	1	Great Influence
6	Learning specific applications/software.	2.79	92.86	7	Great Influence
7	Learning to integrate technology for homework assignments.	2.93	97.62	1	Great Influence

| 8 | Learning how to create videos of students for assessment/evaluation. | 2.86 | 95.24 | 4 | Great Influence |
| 9 | Learning to create multimedia (e.g., video editing and formatting) for instructional use. | 2.79 | 92.86 | 7 | Great Influence |

The nine listed professional developments on ICT integration were said to have great significant influences, although three ranked first (x=2.93; 97.62%): 1) Learning about research sources on the internet, 2) Integrating technology into my classroom activities, and 3) Learning to integrate technology for homework assignments. Hence, these identified professional developments were the bases for formulating topics for the plenary sessions in the SLA and also the selection of ICT tools to be shared, just like the Flippity, Loom, Canva, Google Forms, Mentimeter, and Rubistar in addressing what tools to be used in classroom activities and homework assignments, and research sources such as Teaching English, American English, Project Guttenberg, Reading Rockets, Mendeley, Google Scholar, Creative Commons, and Open Access Research Papers. All of these were appreciated by the seasoned teachers simply because they are accessible and user-friendly, highlighting their free and easy-to-learn features. In support, the selection of research resources on the internet could be explained by Apuke and Iyendo (2018) that individuals who wanted to utilize the internet for academic and research purposes stem from the benefits derived, such as free access to online journals, magazines, and other information resources. Perceived usefulness or perceived utility became the main reason many appreciate online resources. On the other hand, the selection of technology integration for homework assignments and classroom activities can be attested by Carstens et al. (2021) that educators are constantly looking for technological tools that can enhance their students' learning.

The significant difference in the importance of internal and external influences on how seasoned teachers use technology in teaching practice

Table 2

T-Test Analysis on the Importance of Internal and External Influences in the Use of Technology by Seasoned Teachers

Internal and External influences	Test Conducted	Mean	DE.	T-Test	Significance
Other teachers have shared examples of how they use computers with their students.	PREtest	2.86	Very Important	-8.45**	00.00
	POST Test	3.93	Absolutely Important		
I am assigned a classroom with computers or audio/visual hookups for a laptop that encourages me to use technology with my students.	PREtest	2.64	Very Important	-10.21**	00.00
	POST Test	4.00	Absolutely Important		
Specific in-house training opportunities.	PREtest	2.57	Very Important	-10.21**	00.00
	POST Test	3.93	Absolutely Important		
I have worked with colleagues to design lessons that	PREtest	2.71	Very Important	-11.78**	00.00

			D.E		
require specific hardware or software.	POST Test	3.86	Absolutely Important		
Professional development workshops led by someone outside our program have demonstrated uses I have adapted to my teaching.	PREtest	2.86	Very Important	- 8.45 **	00.00
	POST Test	3.93	Absolutely Important		
Average Mean Results	PREtest	2.73	Very Important	- 16.52**	00.00
	POST Test	3.93	Absolutely Important		

Note: D.E = Descriptive Equivalence.

** = Highly Significant.

The results showed in the table that there were very significant differences in the pretest and post-test results on the identified importance of internal and external influences on how seasoned teachers use technology in the teaching practice, especially on the motivation to use technology because their students use it and even conducting in-house training opportunities. Paje et al. (2021) can give a simple reason as to why these teachers use computer-based technology, and that is to improve their teaching. This is in consideration of today's youth that they grow up in a time when technology is constantly at their fingertips; and also, the social media application, the internet, and any electronic-based tools spike in the interest of all children (Carstens et al., 2021). So, even the seasoned teachers of the present study view that they have to learn some ICT tools that they can

introduce to their students because they believe that learners can learn better when ICT is integrated into the classroom. This belief is due to the fact that today's learners are digital natives; thus, they are interested in using ICT tools. However, during the discussion with the seasoned teachers, they revealed that they faced different challenges with ICT integration. The challenges seasoned teachers experienced were unfamiliarity with most of the ICT tools in teaching because the experience is relatively new and unfamiliar to them, power interruption, low internet connectivity, and costly tools relevant to the operation and use of the stated tools for ICT integration. This was further explained by Pelila et al. (2022) that until now, despite the efforts to integrate technology in the classrooms effectively, schools still faced problems such as unavailability of support facilities, time, resources, and experts who can help teachers if they encounter problems. As mentioned by Pelila et al. (2022), the given challenges reflect the reality of the education system. Although teachers are willing to do ICT integration, there is still no sustainability in these technologies. Thus, if there is a transformation of pedagogical practices in the digital age as the needs and demands of skills change, there is a great chance that teachers will not always depend on assistance from experts, and they can solve basic problems if they encounter such. Also, they know what other tools to use as alternatives if they encounter problems navigating existing tools they are using. Although this can be attained by learning different ICT tools and addressing basic problems, proper ICT training or workshops must be done to utilize appropriate instruction (Paje et al., 2022; Pelila et al., 2022). Hence, the service activity with the seasoned teachers was timely and appropriate for them to know the free and convenient ICT tools they can use in their teachings.

The significant difference in the perceptions of seasoned teachers before and after the intervention on the importance of technologies in teaching according to their years of service.

Table 3

T-Test Analysis on the Perceptions of Seasons Teachers on the Importance of Technology before and after the intervention on the importance of technologies in teaching five years ago until now.

Perceptions	Test Conducted	Mean	DE.	T-Test	Significance

Five Years Ago	Pretest	3.14	Somewhat Important	0.193^{ns}	0.85
	Post Test	3.07	Somewhat Important		
Three Years Ago	Pretest	3.57	Very Important	0.763^{ns}	0.459
	Post Test	3.36	Very Important		
This Year	Pretest	4.00	Very Important	The T-test cannot be computed because the standard error of the difference is 0.	
	Post Test	4.00	Very Important		
Average	Average Pretest	3.57	Very Important	0.473^{ns}	0.644
	Average Post Test	3.48	Very Important		

Note: Ns = Not Significant.

Surprisingly, the results showed no significant differences in the perceptions of seasoned teachers before and after the intervention on the importance of computers in their years of teaching service because even before the intervention was made to them, they already perceived that technology, including ICT, was something important five years ago. Even three years ago until now, they considered the importance of technology very important. This idea can be due to the continuous change in technology integration as teachers also continuously experiment with new digital technologies and teaching strategies. They move forward and think that as technology-related teaching changes, they must support it by applying this change to their classrooms. Besides, this can be further elaborated because of Education 4.0, wherein the sector, even its future, must be transformed through advanced technology. Also, during the peak of the Covid-19 pandemic, all education sectors had to shift to online learning from traditional classroom

instruction to give students the right to learn regardless of the circumstances. With that, teachers integrate and modify their teaching pedagogies with the aid of technology due to the sudden shift of learning from physical to virtual (Pelila et al., 2022).

Moreover, the result of the present study negated the claims that educators, especially seasoned teachers, are hesitant and have negative perceptions and attitudes to integrate technology for the reason that they are either afraid to try new tools or to accept changes as they even avoid attending ICT training programs (Pelila et al., 2022; Raman & Yamat, 2014; Tri & Nguyen, 2014). Besides, it was not always the case, just like the present study participants who attested that they did not actually have negative perceptions of technology utilization in the classroom; they, too, recognize the essentiality of technology integration into the school. However, it would take them more time to learn new ICT tools to embrace fully and apply them. Hence, these teachers can be described as more open to change and risk-taking but also cautious and have concerns. Though by keeping in mind that teachers' concerns may have a legitimate grounding in professional competence, risks to student learning, and lack of support to productively engage in experimentation and change strategies to address these issues need to be identified (Howard & Mozejko, 2015).

Therefore, the SLA conducted among the seasoned teachers in the present study showed that not all teachers, because they are seasoned, are hesitant to change. They struggle for some reason; thus, they need proper assistance to learn new ICT tools and even different skills. This can maintain their optimistic attitude about how technology can benefit education as they are encouraged and supported in integrating ICT (Awan, 2011).

CONCLUSION

The present study aimed to determine the problems with the ICT skills of some seasoned English language teachers experienced in their teaching and how these could be augmented through a Service-Learning Activity using TPACK as a framework. Based on the findings, it was evidently identified that TPACK is an effective and practical framework for any service-learning activity (SLA), especially in delivering topics and tools on ICT to seasoned teachers. This implies that a successful SLA as professional development for teachers can be achieved with a pre-established framework such as the TPACK, primarily since the present study dealt with seasoned teachers who have difficulty understanding educational technology and integrating it into their classrooms. Also, the seasoned teachers showed a willingness and openness to learning new technology applications throughout the SLA even though struggles in understanding new and different ICT terms and following

fast-paced online instructions were evident to the participants during the event. They have also become aware and appreciative of the ICT tools introduced by the researchers that they requested for an extension and a follow-through of the demonstrations and instructions given. Such professional developments like the SLA are effective in augmenting the ICT skills of the teachers, most particularly the seasoned ones. Nevertheless, even before the conduct of SLA, they had already preconceived the importance of technology and its application as an integral part of their professional development and classroom instruction. This was furtherly reinforced and explained since seasoned teachers are always prompted to adopt the changes in teaching, especially since a lot has rapidly changed in the past century.

With all the significant findings identified in this research, issues such as the acceptability of these technological applications and the affordance of using the augmented ICT skills can still be further argued, scrutinized, and developed in future research. Thus, it is recommended to expand this research by using other methods and approaches to further understand the viewpoint of seasoned teachers in acquiring ICT skills and adopting technological applications in education. Also, to include the investigation of why some teachers struggle to learn the skill and why they are hesitant to embrace the changes in teaching methods using technology are some of the points that researchers can explore and study in the future. In terms of samples, the limited number of participants distributed from different areas can somehow but not exactly provide these study-specific representations of the ICT needs of seasoned teachers. The learning contexts and provisions of support to the teachers vary from each other; thus, technological assistance can be less or more prioritized. Also, the results of this present study may differ from other areas, so it is also recommended to look at the lens of other places. Lastly, since the research participants in the study were dominantly seasoned teachers, it can also be an opportunity for further research to test the level of ICT skills among teachers who have just entered into the profession, such as the beginning and inexperienced teachers, and who are teaching in different fields or subjects to be specified.

REFERENCES

Afzal, A., & Hussain, N. (2020). Impact of community service learning on the social skills of students. *Journal of Education and Educational Development*, *7*(1), 55–70. https://doi.org/10.22555/joeed.v7i1.2988

Agayon, A. J. D., Agayon, A. K. R., & Pentang, J. T. (2022). Teachers in the new normal: Challenges and coping mechanisms in secondary schools. *Journal of Humanities and Education Development, 4*(1), 67–75. https://doi.org/10.22161/jhed.4.1.8

Apuke, O. D., & Iyendo, T. O. (2018). University students' usage of the internet resources for research and learning: Forms of access and perceptions of utility. *Heliyon, 4*(12), 1–34. https://doi.org/10.1016/j.heliyon.2018.e01052

Araujo, M. C., Carneiro, P., Cruz-Aguayo, Y., & Schady, N. (2016). Teacher quality and learning outcomes in kindergarten. *The Quarterly Journal of Economics, 131*(3), 1415– 1453. https://doi.org/10.1920/wp.ifs.2016.0916

Awan, R. N. (2011). What happens to teachers ICT attitudes and classroom ICT use when teachers are made to play computer games?. *International Journal of Information and Education Technology, 1*(4), 354–359.

Carstens, K. J., Mallon, J. M., Bataineh, M., & Al-Bataineh, A. (2021). Effects of technology on student learning. *The Turkish Online Journal of Educational Technology, 20*(1), 105–113.

Choueiry, G. (2021). *One-group pretest-posttest design: An introduction.* https://quantifyinghealth.com/one-group-pretest-posttest-design/

Daud, K.A.M., Khidzir, N.Z., Ismail, A.R. & Abdullah, F.A. (2018). Validity and reliability of instrument to measure social media skills among small and medium entrepreneurs at Pengkalan Datu River. *International Journal of Development and Sustainability, 7*(3), 1026–1037.

Debbagh, M., & Jones, W. M. (2015). Using the TPACK framework to examine technology integration in English language teaching. In D. Rutledge, & D. Slykhuis

(Eds.), *Proceedings of SITE 2015--Society for Information Technology & Teacher Education International Conference* (pp. 3121-3126). Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/150436/

Elas, N. I. B., Majid, F. B. A., & Narasuman, S. A. (2019). Development of technological pedagogical content knowledge (TPACK) for English teachers: The validity and reliability. *International Journal of Emerging Technologies in Learning (iJET), 14*(20), 18–33. https://doi.org/10.3991/ijet.v14i20.11456

Elmhurst University. (2022). *What is service learning?* https://www.elmhurst.edu/blog/what- is-service-learning/#:~:text=Service%20Learning%20involves%20almost%20any,events%20at %20a%20nursing%20home

Fadlelmola, F. M., Panji, S., Ahmed, A. E., Akuguru, W. A., Entfellner, J-B. D., Souiai, O., Mulder, N., & H3ABioNet Research Working Group as Members of the H3Africa Consortium. (2019). Ten simple rules for organizing a webinar series. *PLoS Comput Biol, 15*(4), 1–7. https://doi.org/10.1371/journal.pcbi.1006671

Fleming, J., & Zegwaard, K. E. (2018). Methodologies, methods and ethical considerations for conducting research in work-integrated learning. *International Journal of Work- Integrated Learning, 19*(3), 205–213. https://www.ijwil.org/files/IJWIL_19_3_205_213.pdf

Fransson, G., & Holmberg, J. (2012). Understanding the theoretical framework of technological pedagogical content knowledge: A collaborative self-study to understand teaching practice and aspects of knowledge. *Studying Teacher Education: A journal of self-study of teacher education practices, 8*(2), 193–204. http://dx.doi.org/10.1080/17425964.2012.692994

Ginschel, F., & Schlüter, K. (2020). Education on old age and ageing in school: An analysis of students' conceptions of old age and ageing and implications for teaching. *Education Sciences, 10*(307), 1–16. https://doi.org/10.3390/educsci10110307

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Graham, L. J., White, S. L. J., Cologan, K., Pianta, R. C. (2020). Do teachers' years of experience make a difference in the quality of teaching. *Teaching and Teacher Education, 96,* 1–10. https://doi.org/10.1016/j.tate.2020.103190

Hilmer, C. (2010). Bootstrapping. In N. J. Salkind (Ed.), *Encyclopedia of research design* (pp. 102–105). SAGE Publications. https://doi.org/10.4135/9781412961288

Howard, S. K., & Mozejko, A. (2015). Teachers: technology, change and resistance. In M. Henderson, & G. Romeo (Eds.), *Teaching and Digital Technologies: Big Issues and Critical Questions* (pp. 307-317). Cambridge University Press.

Kini, T., & Podolsky, A. (2016). *Does teaching experience increase teacher effectiveness? A review of the research.* https://learningpolicyinstitute.org/sites/default/files/product-files/Teaching_Experience_Report_June_2016.pdf

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge?. *Contemporary Issues in Technology and Teacher Education, 9*(1)*,* 60–70. https://www.learntechlib.org/primary/p/29544/

Kursch, M. (2021). Impact of a one-off demonstration on the use of ICT in the teaching of andragogy students on their change of attitude towards the use of ICT in education. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE), 9*(1), 121–134. https://doi.org/10.23947/2334-8496-2021-9-1-121-134

Lawrence, J., & Tar, U. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International, 55*(1), 75–105. https://doi.org/10.1080/09523987.2018.1439712

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: Framework for teacher knowledge. *Teachers College Record, 108*(6)*,* 1017–1054. https://one2oneheights.pbworks.com/f/MISHRA_PUNYA.pdf

Mohd Ismail, R. A., Arshad, R., & Abas, Z. (2018). Can teachers' age and experience influence teacher effectiveness in HOTS?. *International Journal of Advanced*

Studies in Social Science & Innovation (IJASSI), 2(1), 144–158. http://dx.doi.org/10.30690/ijassi.21.11

Omilion-Hodges, L. M. (2017). Leadership. In M. Allen (Ed.), *The SAGE encyclopedia of communication research methods* (pp. 855–858). SAGE Publications, Inc.

O'Reilly, E. (2016). Developing technology needs assessments for educational programs: An analysis of eight key indicators. *International Journal of Education and Development using ICT, 12*(1), 129–143. http://ijedict.dec.uwi.edu/viewarticle.php?id=2027

Paje, Y., Rogayan, D. Jr., & Dantic, M. (2021). Teachers' utilization of computer-based technology in science instruction. *International Journal of Technology in Education and Science, 5*(3), 427–446. https://doi.org/10.46328/ijtes.261

Pelila, J. R. O., Bag-ongan, Q. F. L., Talania, J. L. P., & Wakat, G. S. (2022). Factors and barriers influencing technology integration in the classroom. *Journal of Language Education and Educational Technology, 7*(1), 1–15. http://dx.doi.org/10.33772/jleet.v7i1.18704

Perienen, A. (2020). Frameworks for ICT integration in mathematics education - A teacher's perspective. *EURASIA Journal of Mathematics, Science and Technology Education, 13*(6), 1–12. https://doi.org/10.29333/ejmste/7803

Pegler, K., Kollewyn, J., & Crichton, S. (2010). Generational attitudes and teacher ICT use. *Journal of Technology and Teacher Education, 18*(3), 443–458. https://www.learntechlib.org/primary/p/28280/

Raman, K., & Yamat, H. (2014). Barriers teachers face in integrating ICT during English lessons: A case study. *The Malaysian Online Journal of Educational Technology, 2*(3), 11–19.

Saleh Mahdi, H., & Sa'ad Al-Dera, A. (2013). The impact of teachers' age, gender and experience on the use of information and communication technology in EFL teaching. *English Language Teaching, 6*(6), 57–67. https://doi.org/10.5539/elt.v6n6p57

Sharma, Y. K., Dahiya, S., & Verma, C. (2016). Importance of ICT in education. *International Journal of Advance Research in Science and Engineering (IJARSE), 5*(8), 662–669. http://ijarse.com/images/fullpdf/1472192846_139_IJARSE.pdf

Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology & Distance Learning, 2*(1), 3–10. http://www.itdl.org/Journal/Jan_05/article01.htm

Sivasakthi Rajammal, T., & Muthumanickam, R. (2012). A study on the teacher effectiveness of school teachers. *International Journal of Current Research, 4*(2), 222–226. https://www.journalcra.com/sites/default/files/issue-pdf/1701.pdf

Sulistyawati, M. E. S., & Warpindyastuti, L. D. (2018). Using interactive games for the teaching of question tags: Insights from an English language course in Indonesia. *EDULANGUE, 1*(2), 178–209. https://doi.org/10.20414/edulangue.v1i2.350

Timothy, T., & da Silva, A. M. (2022). Teachers' perception towards video conference for remote online teaching: The use of google meet in EFL elementary classrooms. *EDULANGUE, 5*(1), 87–135. https://doi.org/10.20414/edulangue.v5i1.5126

Tri, D. H., & Nguyen, N. H. T. (2014). An exploratory study of ICT use in English language learning among EFL university students. *Teaching English with Technology, 14*(4), 32– 46.

Trinidad, S., Newhouse, P., & Clarkson, B. (2005). A framework for leading school change in using ICT: Measuring change. In W. Shilton, R. Jeffery, & P. Jeffery (Eds.), *Proceedings of the AARE International Education Research Conference: Creative Dissent: Constructive Solutions*. AARE.

United Nations Educational, Scientific, and Cultural Organization (UNESCO). (2002). *Information and communication technology in education: A curriculum for schools and programme for teacher development.* http://www.ifip-tc3.net/IMG/pdf/unesco- ifip_wg3.1-129538e.pdf

Uzorka, A. (2021). Faculty members' communication needs with regards to technology. *Journal of Learning for Development, 8*(1), 111–128.

Wardani, E. N., Drajati, N. A., & Handayani, E. I. P. (2020). Pre-service teacher experience in designing lesson using TPACK-21 CL in teaching reading for high school students. *EDULANGUE,* *3*(1), 29–48. https://doi.org/10.20414/edulangue.v3i1.2094