

The Relationship between Teachers' TPACK and Professional Success: The Case of Novice and Experienced EFL Teachers

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ABSTRACT

Objective: With the rapid evolution of digital tools and resources, understanding how educators integrate technology into their pedagogy and content is critical for enhancing teaching effectiveness and students' engagement resulting in productive educational system. This study investigated the relationship between EFL teachers' Technological Pedagogical Content Knowledge (TPACK) and their professional success. **Method:** This study was conducted during 2024-2025, applying a mixed-methods correlational design. The instruments included: the teachers' self-assessment regarding their TPACK questionnaire by Bostancıoğlu and Zoe Handley (2018), the Effective English Language Teacher Questionnaire (EELTQ) by Babai Shishavan and Sadeghi (2009)- as well as a semi-structured interview. 204 EFL learners completed the questionnaires, from whom, 15 volunteered to take part in the interview. To analyze the data, the researchers performed Pearson Correlation and One-Way ANCOVA using SPSS version 23 and Notta AI.

Results: The study showed that both novice and experienced teachers perceive their TPACK positively, particularly in terms of technology knowledge ($p > .05$). The results revealed that a robust understanding of TPACK contributes to effective teaching practices and enhances professional outcomes, while highlighting that experience alone does not guarantee higher professional success.

Conclusions: This study results advocate for targeted training programs that equip educators with the necessary skills to effectively integrate technology into their teaching, ultimately fostering a more engaging and successful learning environment for students. Furthermore, policymakers should provide workshops that upgrade educators' TPACK and foster a collaborative environment where novice teachers can learn from experienced colleagues through mentorship programs.

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Introduction

The fundamental goal of any educational system is students' improvement in the educational path. The system will be successful in attaining this goal to the extent it invests on its educators' professional success (Pishghadam et al., 2023). To keep students on the right path, educators are one of the main factors whose success can be the primary element in attaining the ultimate ambition of an educational system. The more educators feel confident about their professional success, the better they will use appropriate instructional strategies to transfer content (Pishghadam et al., 2021).

Additionally, the belief that using technology will lead to a powerful educational system and achieving desired outcomes has increased in recent years. Brianza et al. (2024) stated that COVID-19 significantly impacted teaching and learning globally at all educational levels. During this unique time, technology became essential in reshaping education, often highlighting issues related to infrastructure and the technological skills of both teachers and students (Brianza et al., 2024). Hence, empowering teachers to incorporate technology in their content and pedagogy can result in their success termed as "Technological Pedagogical and Content Knowledge" (TPACK). This knowledge is entitled as a framework in teacher education for using technology to understand and describe meaning. Therefore, TPACK is a valuable concept in explaining the skills that teachers need to advance their educational goals in the best way (Schmidt et al., 2009).

The core model of TPACK, derived from Shulman's concept of Pedagogical Content Knowledge (PCK), explains technology knowledge embedded within pedagogical knowledge and content knowledge (Shulman, 1986). In educational research, Technological Pedagogical Content Knowledge (TPCK), which stands for technology, pedagogy, and content knowledge, is a conceptual framework that aims to capture the knowledge teachers need to effectively integrate technology into their teaching (Mishra & Koehler, 2006; Schmidt et al., 2009). The acronym TPCK was renamed TPACK (pronounced "Tee-pack") to make it more memorable and to create a more integrated understanding of these three types of knowledge (Schmidt et al., 2009; Thompson & Mishra, 2008).

The concept of TPACK founded on the theory of Mishra and Koehler (2006) is described in seven domains: Technological content knowledge (TCK), Technology knowledge (TK), Technological pedagogical knowledge (TPK), Pedagogical knowledge (PK), Pedagogical content knowledge (PCK), Content knowledge (CK), Technological pedagogical content knowledge (TPACK) as shown in Figure 1.

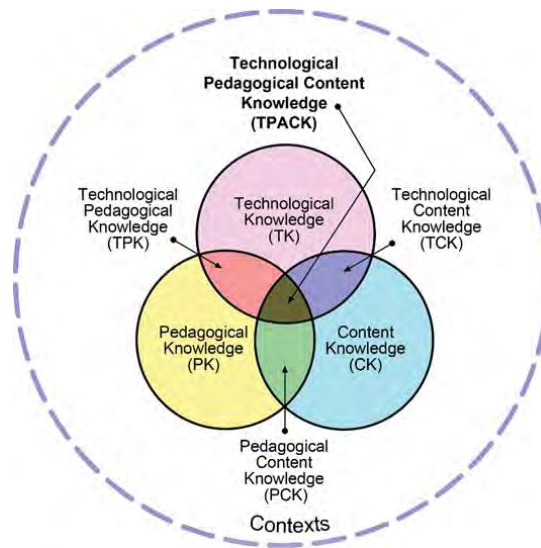


Figure 1. The Components of the TPACK Framework (<http://tpack.org>)

The idea of TPACK is not new. The phrase comes from a brief overview of the component of theory (known as pedagogy), content, and technology in Mishra (1998) in the context of designing software for educational applications (Fan & Wang, 2022; Schmidt et al., 2009). Other researchers like Pierson (1999, 2001), Keating and Evans (2001), and Zhao (2003) correspondingly mentioned the relationship between pedagogy, technology, and content. The TPACK framework highlights the interplay among technological, pedagogical, and content knowledge and the complexities associated with them (Koehler & Mishra, 2008).

Furthermore, as emphasized by Fan and Wang (2022), teachers are critical columns in any educational system, and their professional success is central to the overall success of the system. Professional success of a teacher can be defined in two different ways: learners' views and educators' views (Pishghadam et al., 2023). Feldman (1988) assessed students' opinions and found they correlated a successful teacher with encouragement, eagerness for teaching, content awareness, preparation and organization of the course, understandability of teaching, helpfulness, friendliness and openness to others' opinions (in Pishghadam et al., 2021). Teachers' professional success is multifaceted embracing components such as job satisfaction, effective content delivery, students' engagement, and ongoing professional development. The confidence of teachers in their professional success considerably influences their ability to employ appropriate instructional strategies and effectively integrate technology into their teaching.

Angeli and Valanides (2009) stated that the major goal of TPACK is informing educators about incorporating technology into the process of learning and teaching. Hence, if professional success is accompanied by technology, it leads to boosted learning (Azad & Rashvand Semiyari, 2020).

Considering educators' enthusiasm for TPACK as a teacher knowledge framework, the need to assess teachers' perceptions of TPACK and inspect their success or failure in applying TPACK encouraged us to conduct this study.

Today, the use of technological knowledge in transferring content knowledge and the operation of a vast variety of methodologies in transferring instructional content to the "Net Generation" is not hidden from anyone. Furthermore, awareness of the level of technology literacy of educators for use in the arena of education in fostering the amount of professional success is necessary. Hence, the purpose of this study was to examine novice and experienced teachers' self-report perceptions regarding their TPACK and compare their professional success considering their perceptions toward TPACK.

Research Questions

With respect to the goals of the present study, the following research questions were raised:

RQ1: Is there any statistically significant difference between experienced and novice teachers' perceptions toward their TPACK?

RQ2: Is there any statistically significant relationship between experienced teachers' TPACK and their professional success?

RQ3: Is there any statistically significant relationship between novice teachers' TPACK and their professional success?

RQ4: Is there any statistically significant difference between novice and experienced teachers' professional success concerning their perceptions toward TPACK?

RQ5: How do novice and experienced teachers perceive the factors (age, gender, fame, place of birth, etc.) contributing to professional success?

Literature Review

Various studies (e.g. Fan & Wang, 2022) have employed different methods to evaluate TPACK to pinpoint specific strengths and weaknesses in teachers' knowledge and practice, guiding targeted interventions to enhance their TPACK. Koehler et al. (2014) addressed the challenges and limitations of implementing TPACK in educational settings. One significant challenge expressed by Koehler et al. (2014) was the varying levels of existing knowledge among in-service and pre-service teachers. In-service teachers defined notions and established practices that could limit their openness to new technology-supported strategies. In contrast, Pre-service teachers often started with minimal knowledge of all TPACK constructs, making it essential to design professional development programs. Likewise, Tondeur et al. (2017) through the lens of TPACK delved into integrating technology in teaching by teachers and found that positive attitudes toward technology

and strong self-efficacy were closely related to higher TPACK scores and better readiness to integrate technology into education.

Scherer et al. (2018) investigated the integration of TPACK into educational practices, particularly focusing on how this framework can enhance lesson planning and apply the use of technology in the classroom effectively. Brinkley-Etzkorn (2018) inspected the effect of faculty development training on the teaching of new online instructors and reported that even modest improvements in TPACK integration can enhance teaching effectiveness.

Bostancıoğlu and Handley (2018) probed the relationship between teacher efficacy and various components of TPACK. They found that teachers with higher levels of TPACK have greater confidence in their teaching abilities and their self-efficacy, in turn, impacts their effectiveness in the classroom. Nazari et al. (2019) explored how TPACK is related to the professional development of novice and experienced EFL teachers in Iran. The results highlighted that novice teachers are more likely to incorporate technology into their teaching practices, possibly due to familiarity with modern technological tools. Experienced teachers, on the contrary, showed stronger pedagogical and content knowledge collected over years of teaching.

Roussinos and Jimoyiannis (2019) examined how primary school teachers in Greece perceive their TPACK and its use in instructional practice. The study showed that many educators perceived content, pedagogy, and technology as distinct areas, and often find it challenging to integrate these entities effectively in practice. Fathi and Yousefifard (2019) investigated all components of TPACK based on students' views and found they believed that their instructors were less proficient in TCK, TPK, and TPACK and more competent in the classes of CK, TK, PCK, and PK in comparison with the former ones.

Scherer et al. (2021) explored the effect of perceived online teaching presence, TPACK self-efficacy, and perceived institutional support during the COVID-19 pandemic on preservice teachers' TPACK, concluding that teachers with higher TPACK self-efficacy are more capable of using digital technologies in their lesson plans. Schmid et al. (2021) also explored the connection between pre-service teachers' self-reported TPACK and their use of digital technologies in lesson planning. Their finding revealed positive relationships between pre-service teachers of TPACK components and technology use in lesson planning. Furthermore, Mahmoudi et al. (2021) and Chaipidech et al. (2022) investigated the degree to which in-service technology use training courses affect the TPACK of English teachers in Iran. They concluded that additional courses help teachers integrate technology into lessons, ultimately improving teachers' skills and students' knowledge. Brianza et al. (2024) discovered that preservice teachers who trained after the lockdown had stronger TPACK skills than those who trained before, suggesting some positive effects of the pandemic on these skills. Also, Scherer et al. (2023) found that both novice and experienced teachers require supportive programs to enhance their TPACK.

Concerning the fast pace of digitally-enhanced teaching, educators are obliged to keep learning to use these gadgets effectively. Continuous development and success would not be achieved unless both new and experienced teachers can use TPACK in their classrooms properly. Thus, this study was an attempt to assess novice and experienced teachers' self-report perceptions regarding their TPACK and compared their professional success considering their perceptions toward TPACK.

Method

Research Design

In the present study, a mixed-methods correlational design was applied to discover the relationship between the variables and the data were analyzed and interpreted both quantitatively and qualitatively.

Participants

Two hundred and four undergraduates and graduates, male and female, novice and experienced EFL teachers between the age range of 20 to 60 years old from different institutes, schools, and universities participated in this study. They were selected based on random sampling and had various educational backgrounds, ranging from TEFL, English literature, English translation, to linguistics. The academic degrees of the participants ranged from B.A. to Ph.D., including the students of M.A. and Ph.D. The participants were assigned to two groups of novice and experienced teachers determined by their years of teaching experience spanning from under five years to over five years. It should be mentioned that all the participants sent their consent to participate in the study and they made sure that their responses would be kept confidential and would be used for the purpose of research.

Instruments

The following instruments were employed to gather the required data:

Bostancıoğlu and Zoe Handley (2018) questionnaire

Bostancıoğlu and Zoe Handley (2018) questionnaire was used to collect teachers' self-assessment regarding their TPACK. The questionnaire consisted of 36 items: six items in technology knowledge (TK), four items in pedagogical knowledge (PK), five items in content knowledge (CK), three items in pedagogical content knowledge (PCK), six items in technological pedagogical knowledge (TPK), six items in technological content knowledge (TCK), and six items in technological pedagogical content knowledge (TPCK). The authors reported that the internal consistency (Cronbach's alpha) ranged from .82 to .89 suggesting that all subscales were internally consistent: Technology Knowledge (TK: .82), Pedagogy Knowledge (PK: .89), Content

Knowledge (CK: .84), Technological Pedagogy Knowledge (TPK: .87), Technological Content Knowledge (TCK: .85), Pedagogical Content Knowledge (PCK: .85), and Technological Pedagogical Content Knowledge (TPCK: .89) which is acceptable according to George and Mallery (2001). The teachers' perceptions of their TPACK were measured using a five-point Likert scale, ranging from strongly disagree to strongly agree. In this research, TPACK questionnaire enjoyed the overall reliability index of .93. The reliability indices for the six components of TPACK were as follows; TPCK = .889, PCK = .773, TK = .800, TCK = .904, CK = .831, and TPK = .851.

Shishavan and Sadeghi (2009) Questionnaire

A questionnaire on professional success developed and validated by Shishavan and Sadeghi in 2009 (internal consistency index = .94 using Cronbach's Alpha) was adapted in this study. The questionnaire included 46 items in a five-point (strongly disagree, disagree, no idea, agree, and strongly agree) Likert scale about the characteristics of an Effective English Language Teacher. In this study, the Cronbach's Alpha reliability index for professional success questionnaire was .93.

Semi-structured Interview

To probe deeper into the participants' perceptions on the TPACK and professional success, a semi-structure interview was done with fifteen volunteers from the participants in which they were supposed to either write their responses or record their voices and send it to the researchers. The interview contained eight questions adapted and adopted from Shishavan and Sadeghi Professional Success Questionnaire (2009). It should be mentioned that the validity of all the instruments was confirmed by three TEFL PhD holders.

Procedure

To conduct the study, the online formats of the two questionnaires were used to examine teachers' TPACK and professional success. Before distributing the questionnaires, the goals of the study as well as the concepts of TPACK and professional success were explained in details in EFL teachers' groups on social media such as WhatsApp, Telegram, and other Iranian online applications such as Bale, and Eitaa. Then, the questionnaires were shared online and all the members were requested to respond voluntarily.

In addition to distributing the online questionnaires, 50 printed questionnaires were distributed in different institutions and universities to complete the process of gathering data from which 204 questionnaires were returned to the researchers. At the same time, the semi-structured interviews were conducted with 15 volunteered teachers to delve deeper into the matter.

Data Analysis

Pearson Correlation and One-Way ANCOVA were the main statistical analysis means performed to test the null hypotheses presented in this study. Moreover, the interview results were scrutinized qualitatively using Notta AI as an assistant to transcribe and analyze the data.

Findings

Participants' Characteristics

The demographic information of the participants are reported in Table 1.

Table 1. Frequencies and percentages for demographic information

		Frequency	Percent
Gender	female	160	78.4
	Male	44	21.6
	Total	204	100.0
Age	Less than 21	6	2.9
	21-30	97	47.5
	31-40	70	34.3
	41-50	25	12.4
	More than 50	6	2.9
	Total	204	100.0
Teaching Experience	less than 5 years	97	47.5
	more than 5 years	107	52.5
	Total	204	100.0

As shown, the majority of the EFL teachers (78.4 %) were female. Considering their age, 47.5 % were 21 to 30, 34.3 % were 31 to 40 years, and 12.4 % were 41 to 50 years old. The results also indicated that 25 % of the respondents held MA degrees, 12.3 % had BA degrees, and 4.5 % held PhD.

Testing Normality of the Data

The hypotheses raised in this study were explored through Pearson Correlation and One-Way ANCOVA whose core assumption is the normality of the data. Table 2 shows the skewness and kurtosis indices of normality.

Table 2. Skewness and kurtosis indices of normality

	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Success	204	-.249	.170	-.300	.339
TPCK	204	-.738	.170	.790	.339
PCK	204	-.333	.170	.976	.339
TK	204	-.590	.170	-.438	.339
TCK	204	-.777	.170	.759	.339
CK	204	-.542	.170	.419	.339
TPK	204	-.331	.170	.418	.339
TPACK	204	-.278	.170	.471	.339

As shown, the skewness and kurtosis indices were all within the ranges of ± 2 . Thus, it was concluded that the present data did not show any significant deviation from normality (Bachman, 2005; Bae & Bachman, 2010; George & Mallery, 2020).

Exploring First Research Question

The first research question investigated how novice and experienced teachers perceived their TPACK. Table 3 shows the descriptive statistics for the novice ($n = 97$) and experienced ($n = 107$) EFL teachers' perceptions towards TPACK.

Table 3. Descriptive statistics for perceptions on TPACK by teaching experience

Experience		N	Minimum	Maximum	Mean	Std. Deviation	Variance
Novice	TPCK	97	2	5	3.93	.743	.553
	PCK	97	3	5	4.16	.477	.228
	TK	97	3	5	4.41	.533	.284
	TCK	97	2	5	4.13	.714	.510
	CK	97	3	5	4.16	.592	.351
	TPK	97	2	5	3.94	.627	.394
	TPACK	97	3	5	4.12	.455	.207
Experienced	TPCK	107	1	5	3.86	.733	.537
	PCK	107	2	5	4.13	.464	.216
	TK	107	3	5	4.42	.488	.239
	TCK	107	2	5	4.11	.687	.473
	CK	107	2	5	4.19	.544	.295
	TPK	107	2	5	3.90	.598	.358
	TPACK	107	2	5	4.10	.438	.191

The two groups' means on overall TPACK were 4.12 and 4.10 respectively. Among the novice EFL teachers, TK ($M = 4.41$), and TPCK ($M = 3.93$) had the highest and lowest means. The same results can be found for the experienced teachers, i.e. TK ($M = 4.42$), and TPCK ($M = 3.86$) had the highest and lowest means.

Exploring Second Research Question

The second research question explored whether there is any statistically significant relationship between experienced teachers' TPACK and their professional success. Table 4 shows the Pearson Correlation between experienced teachers' TPACK and their professional success.

Table 4. Pearson correlation between TPACK and professional success (experienced teachers)

Experience		TPACK
Experienced	Pearson Correlation	.487**
	Sig. (2-tailed)	.000
	N	107

** . Correlation is significant at the .01 level (2-tailed).

The results ($r(105) = .487$, representing a moderate effect size, $p < .01$) indicated that there was a significant relationship between the two variables. Thus, the first null-hypothesis as “there was not any statistically significant relationship between experienced teachers' TPACK and their professional success” was rejected.

Exploring Third Research Question

The third research question investigated if there was any statistically significant relationship between novice teachers' TPACK and their professional success. Table 5 shows the Pearson Correlation between novice teachers' TPACK and their professional success.

Table 5. Pearson correlation between TPACK and professional success (novice teachers)

Experience		TPACK
Novice	Pearson Correlation	.542**
	Sig. (2-tailed)	.000
	N	97

** . Correlation is significant at the .01 level (2-tailed).

The results ($r(105) = .542$, representing a large effect size, $p < .01$) indicated that there was a significant relationship between the two variables. Thus, the second null-hypothesis as “there was not any statistically significant relationship between novice teachers' TPACK and their professional success” was rejected.

Exploring Fourth Research Question

The last research question examined if there was any statistically significant difference between novice and experienced teachers' professional success concerning their perceptions toward TPACK. One-Way ANCOVA was run to compare the novice and experienced teachers' mean scores on professional success after controlling for the effect of TPACK.

One-Way ANCOVA, besides the assumptions of normality, and reliability, has two more assumptions; i.e. linearity, homogeneity of regression slopes, and homogeneity of variances (Field, 2024; Pallant, 2016). One-Way ANCOVA requires that there should be a linear relationship between TPACK and professional success.

Table 6. Testing assumption of linearity of relationship between TPACK and professional success

		Sum of Squares	df	Mean Square	F	Sig.
Success * TPACK	Between Groups (Combined)	11.685	64	.183	1.849	.001
	Linearity	6.658	1	6.658	67.442	.000
	Deviation from Linearity	5.027	63	.080	.808	.828
	Within Groups	13.722	139	.099		
	Total	25.406	203			
	Eta Squared	.460				

The significant results of the linearity test ($F(1, 203) = 67.44$, $p < .05$, eta squared = .460 representing a large effect size) (Table 6) rejected the statistical null-hypothesis that the relationship between professional success and TPACK was not linear. In other words, there was a linear relationship between the two variables.

Second, One-Way ANCOVA requires that there should be linear relationships between TPACK and professional success across the two teaching experience groups; i.e. homogeneity of regression slopes (Table 7).

Table 7. Testing homogeneity of regression slopes professional success by teaching experiences with TPACK

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Experience	.006	1	.006	.066	.797	.000
TPACK	6.681	1	6.681	71.499	.001	.263
Experience * TPACK	.003	1	.003	.030	.862	.001
Error	18.689	200	.093			
Total	3870.657	204				

The non-significant interaction between covariate (TPACK), and the independent variable ($F(1, 200) = .030, p > .05$, Partial eta squared = .001 representing a weak effect size) indicated that the statistical assumption that the relationships between TPACK and professional success were linear across the two teaching experience groups was supported. In other words; there were linear relationships between TPACK and professional success across the novice and experienced teachers.

And finally, One-Way ANCOVA assumes homogeneity of variances of the groups on professional success.

Table 8. Levene's test of homogeneity of variances for professional success by teaching experiences with TPACK

F	df1	df2	Sig.
.036	1	202	.850

Tests the null hypothesis that the error variance of the dependent variable is equal across teaching experiences.

The non-significant results of the Levene's tests ($F(1, 202) = .036, p > .05$) (Table 8) indicated that the assumption of homogeneity of variances was retained on professional success after controlling for the effect of TPACK. Table 9 shows the novice and experienced groups' means on professional success after controlling for the effect of TPACK. It also shows the two groups' means on professional success before controlling for the effect of TPACK.

Table 9. Descriptive statistics for professional success by teaching experience with TPACK

Teaching experience	Mean	Mean Controlling for TPACK	Std. Deviation	N
Novice	4.33	4.324 ^a	.350	97
Experienced	4.35	4.357 ^a	.359	107
Total	4.34	---	.354	204

a. Covariates appearing in the model are evaluated at the following values: TPACK = 4.11.

The results showed that the novice ($M = 4.324$) and experienced ($M = 4.357$) teachers had almost the same means on professional success after controlling for the effect of TPACK. Their means on professional success without controlling for the effect of TPACK were roughly equal; i.e. 4.33 for novice, and 4.35 for experienced teachers. Table 10 shows the main results of One-Way ANCOVA.

Table 10. Tests of between-subjects effects for professional success by teaching experiences with TPACK

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
TPACK	6.679	1	6.679	71.823	.000	.263
Experience	.057	1	.057	.612	.435	.003
Error	18.692	201	.093			
Total	3870.657	204				

The results ($F(1, 201) = .612, p > .05$, partial $\eta^2 = .003$ representing a weak effect size) indicated that there was not any significant difference between the novice and experienced teachers' means on professional success after controlling for the effect of TPACK. Thus, the null-hypothesis as "there was not any statistically significant difference between novice and experienced teachers' professional success concerning their perceptions toward TPACK" was supported.

Qualitative Analysis of the Fifth Question

To answer the last question, a structured interview was conducted with 8 novice and 8 experienced EFL teachers to delve into their perceptions regarding their professional success deeper

Both novice and experienced English language teachers, while answering the first question regarding essential characteristics of an English teacher, highlighted the necessity for strong communication skills, adaptability, and cultural awareness as essential traits for fostering an engaging learning environment. For instance, one of the novice teachers explained: " *Totally, teachers should be sympathetic and friendly. They have to consider the rapport between students and teacher. They have to keep this rapport for all type of students regarding their characteristics* ". However, experienced teachers tended to underscore the importance of pedagogical skills and subject matter expertise that enriches their teaching practices and enhances student engagement.

Concerning the second qualitative research question focusing on the differences between English language teachers and those of other subject matters, the emphasis was on the unique challenges of English teachers, especially those who teach English as a foreign language. The participants believed that an English teacher should deliver content while promoting communication in a language that is not students' first language. As an answer to this question, one of the teachers wrote:

"Teachers need to have comprehensive content knowledge of the subject they are teaching but general teachers are presenting this content in a language familiar to students living environment while English Teachers need to present the content while using a foreign language which is not students first language and building a connection will be hard. "

Moreover, both groups underscored the motivational needs that make more challenges for English teachers that are often less pronounced in other subjects. In terms of learners' gender, many novice teachers believed that it does not significantly impact their teaching efficacy. However, experienced educators referred to teaching strategies, classroom management, and the teacher's ability to connect with students as more significant factors in teaching effectiveness.

Both groups prioritized personality and behavior as a fundamental base in creating an environment encouraging learning with more emphasis of experienced teachers on a balance of all three characteristics, language knowledge, pedagogy, and personality, revealing the holistic approach. One novice teacher noted: *"teaching a language is dealing with people with different personalities and viewpoints"*, creating rapport and motivation essential. Moreover, some novice teachers stressed that all components must complement each other or a teacher's overall success could weaken.

Novice teachers referred to the energy and adaptability of younger educators, especially to new situations while they considered experienced teachers more resistant to new technology or up-to-date teaching methods. One novice teacher mentioned that younger teachers are *"always updating themselves"*, making their abilities along with learners' needs resulting in an engaging environment that enhances learning outcomes. The experienced teachers qualified 'age of experience' as an advantage in managing diverse learners' needs and maintaining discipline in a classroom, whereas they underscored that younger teachers bring energy and technological skills. Many experienced teachers believed that a balanced perspective on age should be considered as one of the teachers explains that *"age may influence performance but is not the sole determinant of success"*.

While experienced teachers believed "fame" might lead to satisfaction relying on outdated methods, they noted that the fame could encourage teachers to work harder to meet expectations and improve performance causing enhancing self-efficacy. On the other hand, novice teachers asserted that a teacher's reputation would attract students, fostering a positive environment for learning. As one novice teacher explained *"When someone is famous and known so their thoughts are positive towards him and it opens a door for learning better"*. However, both groups indicated that fame necessarily does not guarantee a teacher's effectiveness. Besides, they emphasized the importance of teacher-student rapport over reputation.

The responses to the eighth question by experienced teachers suggested that an English 'teacher's place of born' can influence their teaching efficacy in several ways such as accent, pronunciation, resource, tools, and training availability that cause professional growth, as well as cultural influences that might hinder innovation due to sticking to traditional methods or might require high-quality teaching resulting in improving teaching efficacy. In contrast, novice teachers viewed this factor as less significant in teachers' efficacy. They addressed the technology and tools that increase access to online resources and training that facilitate teachers from smaller cities or

remote areas to perform effectively. One novice teacher mentioned that *“Nowadays technology is so pervasive that teachers in every city have access to a wide range of online/offline teacher training courses and if they want to, they can improve their teaching capabilities”*.

Discussion

The findings revealed that both novice and experienced teachers identified Technology Knowledge (TK) as their strongest component. The result of relatively high mean scores for teachers' overall TPACK perceptions, regardless of their experience, shows that teachers feel confident in integrating technology into their teaching practices. These results are consistent with those of Azad and Rashvand Semiyari (2020) as well as Schmid et al. (2021) who reported positive relationships between pre-service teachers' TPACK components and technology use in their classes that indicated teachers with low levels of the component of technology in TPACK tend to plan lessons without technology use while those with higher levels might plan the use of technology. However, the lower means observed in the subcategory of TPACK for both groups suggest that while teachers are comfortable with technology, they might struggle to integrate it with pedagogical strategies and content knowledge effectively. This result aligns with the results reported by Brinkley-Etzkorn (2018), Karchmer-Klein and Konishi (2023) and Turgut (2017). Overall, the findings revealed the lack of statistically significant difference between novice and experienced teachers' self-report regarding their TPACK which indicates that both novice and experienced teachers perceive their TPACK similarly. This finding contrasts with that of Fontanilla (2016) who found significant differences in the correlations between TPACK scores of experienced teachers in particular but not in all domains of TPACK.

The analysis demonstrated a significant positive correlation between experienced teachers' TPACK and their professional success indicating that as experienced teachers' TPACK increases, so does their professional success, emphasizing the importance of TPACK in enhancing teaching effectiveness and professional outcomes. Similar results were reported by Scherer et al. (2018). The correlation between novice teachers' TPACK and their professional success showed a statistically significant relationship between the two variables. This finding supports the premise that a robust understanding of TPACK enhances teachers' ability to deliver effective instruction, ultimately leading to better professional outcomes.

Moreover, the results showed no significant difference in professional success between the two groups after controlling for TPACK. This indicates that both novice and experienced teachers achieve similar levels of professional success when TPACK is considered, suggesting that experience alone does not guarantee higher professional success. These findings are consistent with those of Scherer et al. (2023) suggesting that while experience may play a role in professional success, it is not significant when TPACK is accounted for. Both groups exhibited similar levels

of professional success, which points to the critical role TPACK plays in influencing outcomes regardless of teaching experience. This result underscores the necessity for both groups to focus on developing their TPACK to enhance their professional outcomes.

Considering the results of the interview, both novice and experienced English language teachers highlighted the necessity for strong communication skills, adaptability, and cultural awareness as essential traits for fostering an engaging learning environment. They pointed to the hard task English language teachers have to tackle compared to other educators as an English teacher should deliver content while promoting communication in a language that is not students' first language. Moreover, both groups underscored the motivational needs that make more challenges for English teachers that are often less pronounced in other subjects.

Gender of the teacher and students was highlighted by novice teachers as an influential factor in an EFL educator's success while experienced ones pointed to the more significant role of individual differences, teaching strategies, classroom management ability, and the teacher's ability to connect with students. Both groups prioritized personality and behavior as a fundamental base in creating an encouraging learning environment with an emphasis on a balance of all three characteristics: language knowledge, pedagogy, and personality, revealing the holistic approach. Moreover, novice teachers considered experienced teachers more resistant to new technology or up-to-date teaching methods.

Conclusion

Empowering teachers to incorporate technology in their content and pedagogy can result in their success termed as TPACK. Teachers play a crucial role in building a successful education system, thus, it's essential to train technologically-skilled and effective teachers. This research explored how TPACK may affect EFL teachers' effectiveness. Additionally, the study examined how years of teaching experience can influence professional success, aiming to determine whether a teacher's success can be predicted based on their experience. As the findings showed, years of experience and perceptions of TPACK do not correlate with each other, as both novice and experienced teachers perceive their TPACK similarly.

The significant positive correlations between TPACK and professional success underscore the necessity for ongoing professional development focused on enhancing TPACK among teachers. In contrast, years of experience and teachers' professional success does not correlate with each other concerning their perceptions toward TPACK, suggesting that experience alone does not guarantee higher professional success.

In conclusion, teachers' professional success is multifaceted, embracing several components such as job satisfaction, effective content delivery, students' engagement, and ongoing professional development. The confidence of teachers in their professional success considerably influences their

ability to employ appropriate instructional strategies and effectively integrate technology into their instruction. As highlighted by Fan and Wang (2022), teachers are critical columns in the educational system, and their professional success is central to the overall success of the system.

The results of this study have some implications. First, it implies that the knowledge of technology and the interaction of technology with the knowledge of pedagogy and content in teaching English affect EFL teachers' professional success supportively. Thus, the implication for teachers is that they should be informed about the facilities provided by technology such as apps, tools, and platforms. Also, policymakers should provide courses and workshops that upgrade teachers' TPACK. Moreover, fostering a collaborative environment where novice teachers can learn from experienced colleagues through mentorship programs can facilitate the sharing of effective TPACK strategies. This approach not only supports novice teachers' growth but also encourages experienced teachers to reflect on their practices, creating a culture of continuous improvement.

Suggestions for Further Research

For further research, the following topics are suggested:

- 1- Future studies can compare teachers from different nationalities considering their TPACK.
- 2- In future studies, the focus can be on the TPACK of the students. The researchers can provide the situation in which investigating teachers' TPACK is based on their students' opinions.
- 3- Future research can explore the nuances of TPACK across diverse educational contexts, examining how various factors such as institutional support, cultural differences, and specific teaching environments influence the relationship between TPACK and professional success.

Data Availability Statement

The data will be available upon reasonable request.

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Ethical considerations

The authors avoided from data fabrication and falsification.

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Conflicts of Interest

The authors declare no conflict of interest.

References

- Angeli, C., & Valanides, N. (2009). Epistemological and methodological issues for the conceptualization, development, and assessment of ICT-TPCK: Advances in technological pedagogical content knowledge (TPCK). *Computers & Education*, 52(1), 154–168. <https://doi.org/10.1016/j.compedu.2008.07.006>
- Azad, M., & Rashvand Semiyari, S. (2020). An investigation on the perceived and actual technological literacy of university instructors and students in Iran. *Iranian Journal of Learning and Memory*, 3(9), 29–39. <https://doi.org/10.22034/iepa.2020.230985.1168>
- Bachman, L. F. (2005). *Statistical analysis for language assessment* (2nd ed.). Cambridge University Press.
- Bae, J., & Bachman, L. F. (2010). An investigation of four writing traits and two tasks across two languages. *Language Testing*, 27(2), 213–234. <https://doi.org/10.1177/0265532209349470>
- Bostancıoğlu, A., & Handley, Z. (2018). Developing and validating a questionnaire for evaluating the EFL 'Total PACKage': Technological Pedagogical Content Knowledge (TPACK) for English as a Foreign Language (EFL). *Computer Assisted Language Learning*, 31(5-6), 572–598. <https://doi.org/10.1080/09588221.2017.1422524>
- Brianza, E., Schmid, M., Tondeur, J., & Petko, D. (2024). The digital silver lining of the pandemic: The impact on preservice teachers' technological knowledge and beliefs. *Education and Information Technologies*, 29(2), 1591–1616. <https://doi.org/10.1007/s10639-023-11801-w>
- Brinkley-Etz Korn, K. E. (2018). Learning to teach online: Measuring the influence of faculty development training on teaching effectiveness through a TPACK lens. *The Internet and Higher Education*, 38, 28–35. <https://doi.org/10.1016/j.iheduc.2018.04.004>
- Chaipidech, P., Srisawasdi, N., Kajornmanee, T., & Chaipah, K. (2022). A personalized learning system-supported professional training model for teachers' TPACK development. *Computers and Education: Artificial Intelligence*, 3, Article 100064. <https://doi.org/10.1016/j.caeai.2022.100064>
- Fan, J., & Wang, Y. (2022). English as a foreign language teachers' professional success in the Chinese context: The effects of well-being and emotion regulation. *Frontiers in Psychology*, 13, Article 952503. <https://doi.org/10.3389/fpsyg.2022.952503>
- Fathi, J., & Yousefifard, S. (2019). Assessing language teachers' technological pedagogical content knowledge (TPACK): EFL students' perspectives. *Research in English Language Pedagogy*, 7(2), 255–282. <https://doi.org/10.30486/relp.2019.665888>
- Feldman, K. A. (1988). Effective college teaching from the students' and faculty's view: Matched or mismatched priorities? *Research in Higher Education*, 28(4), 291–344. <https://doi.org/10.1007/BF01006402>

- Field, A. (2024). *Discovering statistics using IBM SPSS statistics* (6th ed.). Sage Publications.
- Fontanilla, H. S. (2016). *Comparison of beginning teachers' and experienced teachers' readiness to integrate technology as measured by TPACK Scores* [Doctoral dissertation, Brandman University]. ProQuest Dissertations & Theses Global. <https://www.proquest.com/openview/154015d6b32bf19d83a36b34c6021e5c/1>
- George, D., & Mallery, P. (2020). *IBM SPSS statistics 26 step by step: A simple guide and reference* (16th ed.). Routledge. <https://doi.org/10.4324/9780429056765>
- Karchmer-Klein, R., & Konishi, H. (2023). A mixed-methods study of novice teachers' technology integration: Do they leverage their TPACK knowledge once entering the profession? *Journal of Research on Technology in Education*, 55(3), 490–506. <https://doi.org/10.1080/15391523.2021.1976328>
- Keating, T., & Evans, E. (2001). Three computers in the back of the classroom: Preservice teachers' conceptions of technology integration. In *Society for Information Technology & Teacher Education International Conference Proceedings* (pp. 123–128). Association for the Advancement of Computing in Education. <https://www.learntechlib.org/primary/p/17023/>
- Koehler, M. J., & Mishra, P. (2008). Introducing TPCK. In *The handbook of technological pedagogical content knowledge (TPCK) for educators* (pp. 3–29). Routledge.
- Koehler, M. J., Mishra, P., Kereluik, K., Shin, T. S., & Graham, C. R. (2014). The technological pedagogical content knowledge framework. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of research on educational communications and technology* (4th ed., pp. 101–111). Springer. https://doi.org/10.1007/978-1-4614-3185-5_9
- Mahmoudi, M., Rashtchi, M., & Abbasian, G. R. (2021). Efficacy of in-service education and training (INSET) courses in improving EFL teachers' technological pedagogical and content knowledge (TPACK). *Journal of Modern Research in English Language Studies*, 8(1), 31–54. <https://doi.org/10.30479/jmrels.2019.11373.1416>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Nazari, N., Nafissi, Z., Estaji, M., & Marandi, S. S. (2019). Evaluating novice and experienced EFL teachers' perceived TPACK for their professional development. *Cogent Education*, 6(1), Article 1632010. <https://doi.org/10.1080/2331186X.2019.1632010>
- Pallant, J. (2016). *SPSS survival manual* (6th ed.). Allen & Unwin.
- Pierson, M. E. (1999). *Technology integration practice as a function of pedagogical expertise* [Doctoral dissertation, Arizona State University]. ProQuest Dissertations & Theses Global. <https://doi.org/10.1080/08886504.2001.10782325>
- Pierson, M. E. (2001). Technology integration practice as a function of pedagogical expertise. *Journal of Research on Computing in Education*, 33(4), 413–430. <https://doi.org/10.1080/08886504.2001.10782325>
- Pishghadam, R., Derakhshan, A., Jajarmi, H., Tabatabaee Farani, S., & Shayesteh, S. (2021). Examining the role of teachers' stroking behaviors in EFL learners' active/passive motivation and teacher success. *Frontiers in Psychology*, 12, Article 707314. <https://doi.org/10.3389/fpsyg.2021.707314>

- Pishghadam, R., Derakhshan, A., Zhaleh, K., & Al-Obaydi, L. H. (2023). Students' willingness to attend EFL classes with respect to teachers' credibility, stroke, and success: A cross-cultural study of Iranian and Iraqi students' perceptions. *Current Psychology*, 42(5), 4065–4079. <https://doi.org/10.1007/s12144-021-01738-z>
- Roussinos, D., & Jimoyiannis, A. (2019). Examining primary education teachers' perceptions of TPACK and the related educational context factors. *Journal of Research on Technology in Education*, 51(4), 377–397. <https://doi.org/10.1080/15391523.2019.1666323>
- Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2021). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior*, 118, Article 106675. <https://doi.org/10.1016/j.chb.2020.106675>
- Scherer, R., Siddiq, F., Howard, S. K., & Tondeur, J. (2023). The more experienced, the better prepared? New evidence on the relation between teachers' experience and their readiness for online teaching and learning. *Computers in Human Behavior*, 139, Article 107530. <https://doi.org/10.1016/j.chb.2022.107530>
- Scherer, R., Tondeur, J., Siddiq, F., & Baran, E. (2018). The importance of attitudes toward technology for pre-service teachers' technological, pedagogical, and content knowledge: Comparing structural equation modeling approaches. *Computers in Human Behavior*, 80, 67–80. <https://doi.org/10.1016/j.chb.2017.11.003>
- Schmid, M., Brianza, E., & Petko, D. (2021). Self-reported technological pedagogical content knowledge (TPACK) of pre-service teachers in relation to digital technology use in lesson plans. *Computers in Human Behavior*, 115, Article 106586. <https://doi.org/10.1016/j.chb.2020.106586>
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education*, 42(2), 123–149. <https://doi.org/10.1080/15391523.2009.10782544>
- Shishavan, H. B., & Sadeghi, K. (2009). Characteristics of an effective English language teacher as perceived by Iranian teachers and learners of English. *English Language Teaching*, 2(4), 130–143. <https://eric.ed.gov/?id=EJ1083690>
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14. <https://doi.org/10.3102/0013189X015002004>
- Thompson, A. D., & Mishra, P. (2007). Editors' remarks: Breaking news: TPCK becomes TPACK! *Journal of Computing in Teacher Education*, 24(2), 38–64. <https://doi.org/10.1080/10402454.2007.10784583>
- Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2017). A comprehensive investigation of TPACK within pre-service teachers' ICT profiles: Mind the gap! *Australasian Journal of Educational Technology*, 33(3), 46–60. <https://doi.org/10.14742/ajet.3504>
- Turgut, Y. (2017). A comparison of pre-service, in-service and formation program for teachers' perceptions of technological pedagogical content knowledge (TPACK) in English language teaching (ELT). *Educational Research and Reviews*, 12(22), 1091–1106. <https://eric.ed.gov/?id=EJ1161397>
- Zhao, Y. (Ed.). (2003). *What teachers should know about technology: Framing the question*. Information Age Publishing.