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CAMBODIAN TEACHERS' READINESS FOR ONLINE TEACHING: PERCEPTIONS AND CHALLENGES

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Abstract: This study gauges the readiness of Cambodian teachers for Online Teaching and Learning (OTL) in higher education institutions (HEIs). A quantitative design was utilized, including 140 teachers who participated in an online survey consisting of 29 question items. The research found that teachers certainly assessed their OTL competencies favorably, with mean scores between 3.63 and 3.73 across diverse skills. The research found that teaching experience has a positive effect on readiness for online teaching and learning, especially concerning pedagogical strategies and self-efficacy in digital settings. Nonetheless, the association was less significant for technological knowledge. TPACK and perceived institutional support emerged as significant predictors of teachers' readiness. This research enhances comprehension of the complexity surrounding teacher readiness for OTL in Cambodia. The recommendation is to address shortcomings in technological expertise and to improve institutional support by implementing comprehensive professional development that is tailored to the needs of teachers.
Keywords: Online Teaching and Learning, TPACK, Institutional Support, Higher Education, Cambodia

Abstrak: Penelitian ini mengukur kesiapan guru di Kamboja untuk Pengajaran dan Pembelajaran Online (OTL) di institusi pendidikan tinggi (HEI). Desain kuantitatif digunakan dengan melibatkan 140 guru yang berpartisipasi dalam survei online yang terdiri dari 29 item pertanyaan. Penelitian ini menemukan bahwa para guru menilai kompetensi OTL mereka dengan baik, dengan skor rata-rata antara 3,63 dan 3,73 untuk berbagai keterampilan. Penelitian menemukan bahwa pengalaman mengajar berpengaruh positif terhadap kesiapan belajar mengajar online, terutama mengenai strategi pedagogi dan efikasi diri dalam lingkungan digital. Meskipun demikian, hubungan tersebut kurang signifikan terhadap pengetahuan teknologi. Selain itu, TPACK dan dukungan kelembagaan muncul sebagai elemen signifikan terhadap kesiapan guru. Penelitian ini meningkatkan pemahaman tentang kompleksitas seputar kesiapan guru untuk OTL di Kamboja. Rekomendasinya adalah untuk mengatasi kekurangan dalam keahlian teknologi dan meningkatkan dukungan kelembagaan dengan menerapkan pengembangan profesional komprehensif yang disesuaikan dengan kebutuhan guru.
Kata Kunci: Belajar Mengajar Online, TPACK, Dukungan Kelembagaan, Perguruan Tinggi, Kamboja

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INTRODUCTION

Cambodia's higher education system has a rich history stretching back to the Khmer Empire, with considerable reform occurring post-1979 with the fall of the Khmer Rouge dictatorship. This period featured the re-establishment of public universities and the subsequent expansion of private institutions (Eam, 2016; Em et al., 2023). However, studies on Cambodian higher education were able to concentrate on the situation after the genocidal Khmer Rouge regime collapsed. During that time the entire formal education

system was completely abolished in 1979 when Cambodian higher education was restarted and structurally reorganized. Public universities were reopened later, and more private ones emerged in subsequent years (Eam, 2016).

Higher education has long been disregarded, and public finance for it is inadequate. Cambodian higher education's quality and relevance to the labor market and societal norms have continually been questioned. The dominance of social sciences, business, law, and humanities in higher education enrollment, comprising over three-quarters, far surpasses that of science, technology, engineering, arts, and mathematics. There is minimal information on quality. Another concern for the next years will be to maintain high-quality curricula with globally recognized certification at an affordable price, as well as to enable access to higher education for outstanding individuals from underprivileged families (Vialichka, 2021).

The dominant assumption in teacher preparedness research holds that the relationship between experience and readiness for online teaching and learning (OTL) is fundamentally good or negative. This assumption implies that more experienced instructors feel more (or less) prepared for OTL than their less experienced counterparts. The emphasis on assisting new teachers may overshadow the needs of experienced teachers (Scherer et al., 2023b). The TPACK framework has undeniably influenced teacher education and professional development research and practice. Since 2009, there have been over 1200 journal publications and book chapters, 315 dissertations, and 28 books dedicated to studying the TPACK construct (Zhang & Tang, 2021).

The COVID-19 epidemic has led to the adoption of new technology, but traditional teaching methods still prevail. There is inadequate attention given to training and professional development, and university governance has not kept pace with modern demands. Cambodia's higher education system needs strategic alignment and investment to enhance its quality, relevance, and accessibility. Higher education has undoubtedly produced numerous skilled graduates for the labor market, but it must undergo reform and receive greater alignment and investment to support national development effectively. The future challenges for higher education necessitate ensuring quality and relevance, providing equitable access, enhancing institutional governance and administration, making strategic investments, and fostering connections with national growth (Sok & Bunry, 2023).

Em et al. (2022) investigated Cambodian EFL university students' perceptions of online learning effectiveness during the COVID-19 pandemic. The data clearly demonstrated that students assessed the efficacy of online learning as moderate, with no significant differences by gender or years of study. Considering these findings, the report strongly advises performing more research with a bigger sample size and diving into instructors' viewpoints on online teaching efficacy. Another research conducted by Soeung & Chim (2022) sought to explore the impact of COVID-19 on teaching in Cambodian upper secondary schools by studying teachers' perceptions of online instruction. The study unambiguously indicated that the epidemic had a negative influence on teaching and learning quality owing to limited student monitoring, not a lack of digital knowledge and abilities. It emphasized the critical role of classroom

management in online learning, particularly for science disciplines that need computational abilities. (Soeung & Chim, 2022).

A recent study examined the creation and use of an online learning platform in a Cambodian educational program. The results showed that just having online courses available is not enough to promote active student participation and successful learning. It is crucial to understand online teaching and learning methods, as well as readiness to use technology for future implementation (Pors, 2016). The Cambodia Development Resource Institute (CDRI) found that nearly all the teachers have taught online classes during the physical school lockdown in their study. However, about one-third of them had returned to in-person teaching at the time of the study. The teachers demonstrated strong pedagogical and subject knowledge, but their technological skills were limited. Factors such as gender, age, perceived difficulty and effectiveness of online teaching, experience teaching in private schools, and access to computers all had an impact on teacher preparedness (Chea et al., 2022).

Teachers' readiness for OTL does not only depend on contextual characteristics, such as the professional development opportunities provided by educational training institutions or the universities' technical resources, but also teachers' background characteristics, digital competence, and especially their experience (Scherer et al., 2023b). The study also concerns online learning related to student motivation, time management, and feedback delay, which are their potential limitation. However, these limitations could be solved by encouraging the teacher to be present and available to respond to students' learning needs, especially the feedback on assignments (Martin et al., 2019; Zhang et al., 2022). Teachers require plenty of opportunities for students to participate and to be engaged with each other, the material, the service-learning agency, and the teachers themselves (Branscum, 2024). The digitalization situation in Cambodia is contradictory, with limited skills for using the internet, smartphones, and social networks in rural areas. Access to the internet is still a challenge, but the government is working to solve this problem. The use of phones and apps for buying food and online markets has increased due to the COVID-19 pandemic. Blended learning has become the dominant response to the COVID-19 pandemic in education (Vialichka, 2021).

Among others, OTL readiness research is concerned with the relations among teacher background characteristics, such as gender, age, and experience, and teachers' readiness levels (Scherer et al., 2023a). The current study aims to explore the relationship between teacher experience and readiness for Online Teaching and Learning (OTL). The study seeks to address the following two research questions:

1. To what extent does a teacher's teaching experience affect their readiness for Online Teaching and Learning?
2. How does the relationship vary across different readiness dimensions?

LITERATURE REVIEW

Technological Pedagogical Content Knowledge (TPACK)

Technological Pedagogical Content Knowledge (TPCK) was introduced to the educational research field as a theoretical framework for understanding teacher

knowledge required for effective technology integration (Mishra & Koehler, 2006). The TPCK framework acronym was renamed TPACK (pronounced "tee-pack") for the purpose of making it easier to remember and to form a more integrated whole for the three kinds of knowledge addressed: technology, pedagogy, and content (Schmidt et al., 2009). The framework offers a conceptual understanding of instructors' preparedness in online teaching and learning (Mishra & Koehler, 2006).

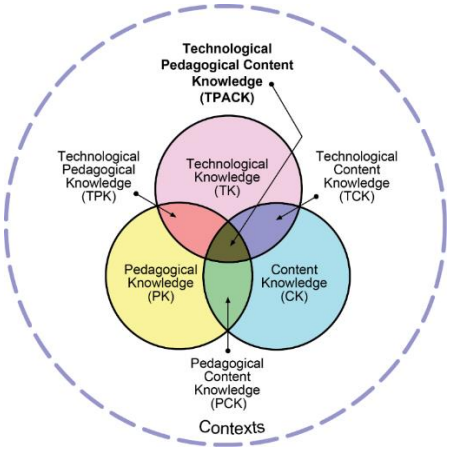

Figure 1. The TPACK framework

At the center of these three knowledge types is an instinctive understanding of teaching content with appropriate pedagogical methods and technologies. Seven components (see Figure 1) are included in the TPACK framework. Technological pedagogical content knowledge (TPACK): Technological pedagogical content knowledge refers to the knowledge required by teachers for integrating technology into their teaching in any content area. Thus, TPACK is a useful frame for thinking about what knowledge teachers must have to integrate technology into teaching and how they might develop this knowledge. Using TPACK as a framework for measuring teaching knowledge could potentially have an impact on the type of training and professional development experiences that are designed for both preservice and in-service teachers (Schmidt et al., 2009).

The convergence of recent digital technological breakthroughs and the profound influence of the COVID-19 epidemic have precipitated a substantial transition towards online education. As a result of this change, educators have been motivated to improve their skills in using digital technology and their professional image, especially in the field of teaching English as a Foreign Language (EFL). The Technological Pedagogical Content Knowledge (TPACK) framework has been recognized as a useful tool for enhancing teaching methods (Su, 2023). Zgheib et al. (2023) conducted a study investigating the preparedness of faculty members to teach online, with a specific focus on the environment of Lebanon. The result shows that female teachers possess greater preparedness than their male colleagues in course design and attitude toward online teaching and learning. Extensive years of teaching experience were found to enhance the teaching pedagogy and course design.

Teacher's Self-Efficacy

Teacher self-efficacy is the crucial element influencing the features of instruction and learning outcomes (Gordon et al., 2023; Ramakrishnan & Salleh, 2019). Teachers'

self-efficacy influences their behaviors, including classroom management and instruction. High teacher self-efficacy is more likely to apply efficient teaching to satisfy the demands of their pupils (Amin Mydin et al., 2022). Studies revealed that principals who assist and give tools can help instructors see their own talents for betterment (Ma & Marion, 2021). Online teaching self-efficacy and demographic and experience factors have been the subject of several recent studies. Online teaching self-efficacy has been found in this research to be favorably connected with variables like years of teaching experience, grade level taught, and degree of technical competency proficiency (Dolighan & Owen, 2021; Yang & Du, 2024). Teachers' self-efficacy in online learning may suffer if they find it difficult to properly incorporate technology into their classroom settings (Corry & Stella, 2018; Dolighan & Owen, 2021). Teachers who have little knowledge of online learning or experience will especially struggle in this regard.

Support and Professional Development

Getting access to the proper support and continuing professional development is crucial for boosting instructors' preparation for online teaching and learning. Ongoing training, mentorship, and collaborative communities can allow educators to build the knowledge, skills, and confidence needed to negotiate the challenges of online education (L. Archambault & Crippen, 2009). Effective support and professional development are critical to helping instructors successfully transition to online and blended education modes. Research demonstrates that tailored training programs may greatly enhance instructors' digital abilities, confidence, and understanding of best practices for online education (Horvitz & Beach, 2011; Rafique, 2024).

Professional development has been suggested to promote teacher self-efficacy in online teaching. Research has repeatedly indicated that such programs may lead to considerable increases in teacher self-efficacy, particularly when they are targeted to the individual needs and concerns of the instructors participating (Baroudi & Shaya, 2022; Corry & Stella, 2018; Dolighan & Owen, 2021).

To conclude, teacher self-efficacy in online teaching and learning is a critical factor in determining the success of online educational initiatives. While there are several challenges associated with adopting online teaching, research has identified several strategies that can enhance teacher self-efficacy, including professional development programs and the integration of technology into teaching practices. Therefore, the current research aims to explore the complex relationships between teacher's TPACK self-efficacy and online teaching to inform the development of more effective online educational programs in Cambodian higher education.

RESEARCH METHODOLOGY

Research Design

This study employs a quantitative research technique to examine Cambodian teachers' readiness for online teaching and learning (OTL). A quantitative method was chosen because it generates objective, numerical data that can be statistically analyzed to identify patterns and correlations. The technique allows for an evaluation of how teachers' experiences impact their preparation in various areas of OTL, including Technological

Pedagogical Content Knowledge (TPACK), perceived online teaching presence (POTP), and perceived institutional support (PIS).

The study used a cross-sectional survey technique to collect data from teachers in Cambodian higher education institutions. The study sought to examine instructors' self-efficacy in online teaching, familiarity with online platforms, and perceptions of institutional support for the transition to online education. The study investigates the relationship between instructors' years of teaching experience and their readiness for OTL, solving two critical research questions: (1) How does a teacher's teaching experience relate to their online teaching and learning readiness? (2) How does the relationship vary among readiness dimensions?

Research Participants

The participants in this research were 140 higher education teachers from various universities in Cambodia. The teachers were gathered via a random selection technique, which ensured that the sample was representative of diverse teaching backgrounds and expertise. The participants hailed from a range of academic subjects, including sciences, humanities, social sciences, and professional studies, giving a comprehensive spectrum of perspectives on Online Teaching and Learning (OTL) readiness.

In terms of gender distribution, both male and female teachers were represented, albeit the sample was somewhat biased toward male participation, mirroring the normal demographics of higher education faculty in Cambodia. The participants also differed in their knowledge of online teaching platforms, with some having extensive experience owing to the quick switch to online learning during the COVID-19 epidemic, while others had less exposure. This guaranteed that the study acquired meaningful data on teachers' actual readiness for OTL in the Cambodian higher education environment.

Data Collection and Procedure

Data for this study were collected through an online survey designed to assess Cambodian teachers' readiness for Online Teaching and Learning (OTL). The survey was developed based on established scales measuring Technological Pedagogical Content Knowledge (TPACK), perceived online teaching presence (POTP), and perceived institutional support (PIS). Also, the questions were customized particularly to the Cambodian higher education environment to capture the aspects examining the readiness for OTL. The survey has been classified into three major sections: (1) Demographic Information: Participants gave information on their gender, age, years of teaching experience, and familiarity with online education platforms; (2) Readiness for Online Teaching: This section focused on teachers' self-efficacy in integrating technology into their teaching practice, their pedagogical strategies for online learning, and their content knowledge as it applies to OTL; and (3) Institutional Support and Online Teaching Presence: Participants were asked to evaluate the support they received from their institutions, such as access to resources, training opportunities, and mentorship programs, as well as their perceptions of their online teaching presence in terms of clarity of instruction, cognitive activation, and feedback.

Between March and June 2024, an online survey was carried out using channels including Telegram, university email lists, and educational forums that are often utilized by higher education institutions in Cambodia. The platform preserves the confidentiality and anonymity of individuals by automatically recording and safely storing responses. The purpose of the data collection method was to include teachers from a range of academic disciplines. The structured survey format allowed for the collection of standardized responses, which facilitated the subsequent statistical analysis. This procedure ensured that the study captured a comprehensive understanding of teachers' readiness, particularly focusing on their teaching experience and its relationship to various readiness dimensions.

Data Analysis

We employed both descriptive and inferential statistics. Descriptive data describe the teacher's demographic characteristics, such as gender, age, years of teaching experience, and familiarity with online learning systems. Mean and standard deviations were calculated. A correlation study is conducted to investigate the link between teaching experience (years) and readiness for OTL (RQ 1). Pearson correlation coefficients were calculated to determine the strength and direction of the correlations. RQ 2 assessed several regressions. Each preparedness dimension (TPACK, POTP, and PIS) was considered a dependent variable, with teaching experience serving as the independent variable. The regression models were used to determine how much of the variation in each preparation element may be ascribed to teaching experience.

All Cronbach's alpha values were more than 0.95 (Table 1), demonstrating high internal consistency across the TPACK, POTP, and PIS items. Cronbach's alpha values were obtained for each dimension to guarantee the reliability of the survey's constructs. The high reliability shows that the survey items accurately represented the underlying components.

Table 1. Item reliability statistics of the constructs

Dimension	Mean	SD	Cronbach's α
Technological Content Knowledge (TCK)	3.68	1.082	0.952
Technological Pedagogical Knowledge (TPK)	3.62	1.068	0.95
Technological Pedagogical Content Knowledge TPCK	3.54	1.038	0.95
POTP: Clarity of Instruction (CoI)	3.73	0.927	0.953
POTP: Cognitive Activation (CA)	3.65	0.932	0.949
POTP: Feedback	3.64	1.006	0.95
Perceived Institutional Support (PIS)	3.5	0.947	0.963

FINDINGS AND DISCUSSION

Findings

Descriptive Statistics

The Study regarding the genders of teachers indicates that out of the total respondents, 24 teachers (17.30%) are female, while 115 teachers (82.70%) are male. This substantial difference shows a higher representation of male teachers compared to female teachers in the sample. The result indicates that the majority of respondents,

54.10%, are involved in teaching at the bachelor's degree level. This is followed by 27.10% who are teaching at the master's degree level. A smaller proportion, 15.30%, teach at the associate degree level, and an even smaller group, 3.50%, are involved in PhD-level teaching. This distribution suggests that the focus of online teaching and learning readiness is primarily concentrated among educators at the undergraduate and postgraduate levels, with significantly fewer PhD-level instructors participating.

In terms of academic disciplines, a substantial proportion of the respondents, 44.30%, are from the Art/Humanities fields. This is followed by 19.30% from Business and 13.60% from Social Sciences. Notably, there were no respondents from the Medicine/Health discipline, indicating a potential area for further engagement or development. Engineering and Science disciplines are represented by 5.00% and 3.60% of the respondents, respectively. Additionally, 7.90% of the participants are from the Law discipline, and 6.40% are from other unspecified disciplines. The presence of educators from a wide range of fields highlights the diverse academic landscape in Cambodian higher education, though the absence of respondents from Medicine/Health suggests a gap in the survey's reach or interest in this area.

Table 2. Frequency table for gender, teaching level, type of HIE, and disciplines

Items	Frequency	Percentage (%)
Gender		
Female Teachers	24	17.30%
Male Teachers	115	82.70%
Teaching level in HEI		
Associate degree	26	15.30%
Bachelor's Degree	92	54.10%
Master's Degree	46	27.10%
Doctor of Philosophy (PhD)	6	3.50%
Teaching Discipline		
Art/Humanity	62	44.30%
Social science	19	13.60%
Engineering	7	5.00%
Science	5	3.60%
Business	27	19.30%
Other	9	6.40%
Law	11	7.90%
Types of Higher Education		
Private HEI	101	72.70%
Public HEI	38	27.30%

HEI = Higher Education Institutions

Table 3 indicates a generally positive self-assessment across various competencies and dimensions related to online teaching. On average, teachers rated their ability to implement curriculum in an online environment at 3.71 (SD = 1.162) (See Appendix for detailed information). Their confidence in using various programs to deliver instruction was slightly lower, with a mean score of 3.64 (SD = 1.103). Teachers felt relatively competent in creating an online environment that fosters knowledge and skill building, with an average score of 3.65 (SD = 1.128), and in implementing different online teaching methods, scoring 3.63 (SD = 1.193).

Research Question 1: Does a teacher's teaching experience affect their readiness for Online Teaching and Learning (OTL)?

The Correlation between Readiness Construct and Demographics

The correlation analysis measured three main dimensions: self-efficacy in TPACK, perceived online teaching presence (POTP), and perceived institutional support (PIS). Each of these dimensions covers different aspects of teachers' readiness perceptions regarding knowledge, teaching, and support.

It was found that the general experience in teaching correlates moderately with online teaching experience ($r = 0.414$, $p < .001$), indicating that teachers with more overall experience are likely to have more experience in online teaching as well. There is a strong correlation between general experience and age ($r = 0.734$, $p < .001$), suggesting that older teachers tend to have more teaching experience overall. The correlations between general teaching experience and other variables like TCK, TPK, TPCK, and aspects of POTP and PIS are weak and mostly non-significant, indicating that general teaching experience alone may not be a strong predictor of self-efficacy in using TPACK, perceived teaching presence, or perceived institutional support in OTL.

Online teaching experience shows a positive correlation with age ($r = 0.222$, $p < .05$), indicating that older teachers tend to have more experience with online teaching. There are significant positive correlations between online teaching experience and TCK ($r = 0.184$, $p < .05$), TPK ($r = 0.211$, $p < .05$), and TPCK ($r = 0.231$, $p < .01$), suggesting that teachers with more online teaching experience have higher self-efficacy in these areas. Online teaching experience also correlates positively with aspects of perceived online teaching presence (POTP), including POTP: Clarity of Instruction ($r = 0.189$, $p < .05$), POTP: Cognitive Activation ($r = 0.215$, $p < .05$), and POTP: Feedback ($r = 0.228$, $p < .01$), indicating that teachers with more online teaching experience perceive their instructional practices more favorably. The positive correlation between online teaching experience and PIS (0.187, $p < .05$) suggests that teachers with more online teaching experience feel more supported by their institutions.

TCK, TPK, and TPCK are highly interrelated, with strong positive correlations between TCK and TPK ($r = 0.889$, $p < .001$), TCK and TPCK ($r = 0.891$, $p < .001$), and TPK and TPCK ($r = 0.915$, $p < .001$). This indicates that these dimensions of self-efficacy are closely linked. These knowledge domains also show strong positive correlations with aspects of POTP, including Clarity of Instruction, Cognitive Activation, and Feedback. For instance, TCK correlates with Clarity of Instruction ($r = 0.752$, $p < .001$), Cognitive Activation ($r = 0.775$, $p < .001$), and Feedback ($r = 0.759$, $p < .001$). Similarly, TPK and

TPCK show strong correlations with these aspects of POTP. The correlations between TPACK self-efficacy and PIS are also positive, with TCK ($r = 0.599$, $p < .001$), TPK ($r = 0.657$, $p < .001$), and TPCK ($r = 0.613$, $p < .001$) all showing significant relationships with perceived institutional support. It suggests that higher technological and pedagogical knowledge is associated with feeling more supported by the institution.

The aspects of POTP (Clarity of Instruction, Cognitive Activation, and Feedback) are highly interrelated. For example, Clarity of Instruction correlates strongly with Cognitive Activation ($r = 0.892$, $p < .001$) and Feedback ($r = 0.866$, $p < .001$), and Cognitive Activation correlates strongly with Feedback ($r = 0.916$, $p < .001$). This indicates that these dimensions of perceived online teaching presence are closely connected. These aspects of POTP also correlate positively with TPACK self-efficacy dimensions. For example, Cognitive Activation correlates with TCK ($r = 0.775$, $p < .001$), TPK ($r = 0.780$, $p < .001$), and TPCK ($r = 0.801$, $p < .001$), suggesting that higher self-efficacy in technological and pedagogical knowledge is associated with better perceptions of online teaching presence.

PIS correlates positively with various aspects of TPACK self-efficacy and POTP. For instance, PIS correlates with TCK ($r = 0.599$, $p < .001$), TPK ($r = 0.657$, $p < .001$), TPCK ($r = 0.613$, $p < .001$), Clarity of Instruction ($r = 0.694$, $p < .001$), Cognitive Activation ($r = 0.709$, $p < .001$), and Feedback ($r = 0.692$, $p < .001$). This underscores the importance of institutional support in enhancing teachers' technological and pedagogical capabilities as well as their perceptions of teaching effectiveness.

Table 3. The relationship between teaching experiences and readiness constructs (n=140)

	General experience	Online teaching	Age	TCK	TPK	TPCK	Clarity of Instruction	Cognitive Activation	Feedback	Institutional Support
General experience	—									
Online teaching	0.414 ***	—								
Age	0.734 ***	0.222 *	—							
TCK	-0.064	0.184 *	-0.027	—						
TPK	-0.082	0.211 *	-0.049	0.889 ***	—					
TPCK	-0.035	0.231 **	0	0.891 ***	0.915 ***	—				
POTP Clarity of Instruction	0.017	0.189 *	0.072	0.752 ***	0.720 ***	0.722 ***	—			
POTP Cognitive Activation	0.075	0.215 *	0.063	0.775 ***	0.780 ***	0.801 ***	0.892 ***	—		
POTP Feedback	0.032	0.228 **	0.101	0.759 ***	0.776 ***	0.776 ***	0.866 ***	0.916 ***	—	
Perceived Institutional Support	0.073	0.187 *	0.105	0.599 ***	0.657 ***	0.613 ***	0.694 ***	0.709 ***	0.692 ***	—

Note. * p < .05, ** p < .01, *** p < .0

Research Question 2: How does the relationship between teaching experience and readiness vary across different dimensions?

Regression Analysis on the Teacher's Readiness in OTL

The linear regression analysis conducted to examine the factors influencing teachers' perception of readiness for online teaching and learning (OTL) in higher education institutions in Cambodia reveals several significant findings. The analysis includes measures of model fit, an omnibus ANOVA test, model coefficients, assumption checks, and diagnostics for autocorrelation, collinearity, and normality.

The overall model shows a strong fit with an R-value of 0.859, indicating a high degree of correlation between the predictors and the outcome variable. The R^2 value of 0.738 means that approximately 73.8% of the variance in teachers' perception of readiness for OTL is explained by the model. The adjusted R^2 value of 0.734 is very close to the R^2 value, indicating that the model is robust and not overly complex. The F-statistic is 193 with degrees of freedom (df1 = 2, df2 = 137) and a p-value of less than 0.001, confirming that the overall regression model is statistically significant.

Table 4. Model fit measures

				Overall Model Test			
Model	**R**	**R^2**	**Adjusted R^2**	**F**	**df1**	**df2**	**p**
1	0.859	0.738	0.734	193	2	137	< .001

The ANOVA results indicate that both TPACK and perceived institutional support (PIS) significantly contribute to the model.

Table 5. Omnibus ANOVA test

	Sum of Squares	**df**	**Mean**	**F**	**p**
TPACK	25	1	25	111.2	< .001
PIS	7.72	1	7.715	34.3	< .001
Residuals	30.79	137	0.225		

Note. Type 3 sum of squares

For TPACK, the sum of squares is 25.00, with an F-value of 111.2 and a p-value of less than 0.001, demonstrating a significant impact on teachers' readiness in perceived online teaching presence. For PIS, the sum of squares is 7.72, with an F-value of 34.3 and a p-value of less than 0.001, also showing a significant contribution to the model. Residuals have a sum of squares of 30.79 with a mean square of 0.225. The intercept of the model is 0.580, with a standard error (SE) of 0.1652, indicating it is statistically significant ($t = 3.51$, $p < 0.001$). The coefficient for TPACK is 0.541, with an SE of 0.0513 and a 95% confidence interval (CI) ranging from 0.440 to 0.643. This coefficient is highly significant ($t = 10.55$, $p < 0.001$), with a standardized estimate of 0.604, suggesting that higher TPACK self-efficacy strongly predicts higher readiness for OTL.

Table 6. Model coefficients on perceived online teaching presence

			95% Confidence				
Predictor	Estimate	SE	Lower	Upper	t	p	Stand. Estimate
Intercept	0.58	0.1652	0.254	0.907	3.51	< .001	
TPACK	0.541	0.0513	0.44	0.643	10.55	< .001	0.604
PIS	0.326	0.0556	0.216	0.436	5.86	< .001	0.335

The coefficient for PIS is 0.326 with an SE of 0.0556 and a 95% CI ranging from 0.216 to 0.436. This coefficient is also highly significant ($t = 5.86$, $p < 0.001$), with a standardized estimate of 0.335, indicating that perceived institutional support significantly enhances teachers' readiness for OTL. The Durbin-Watson statistic is 2.09 with a p-value of 0.546, suggesting that there is no significant autocorrelation in the residuals. The Variance Inflation Factor (VIF) in Collinearity Statistics for both TPACK and PIS is 1.71, with a tolerance of 0.584. These values indicate that multicollinearity is not a concern in the model. The Shapiro-Wilk statistic for the normality test is 0.982 with a p-value of 0.055, suggesting that the residuals are normally distributed.

Table 7. Assumption checks on autocorrelation, collinearity, and normality test

Durbin–Watson Test for Autocorrelation	**Test for Autocorrelation**	**DW Statistic**	**p**
	-0.0513	2.09	0.546
Collinearity Statistics		**VIF**	**Tolerance**
	TPACK	1.71	0.584
	PIS	1.71	0.584
Normality Test (Shapiro-Wilk)		**Statistic**	**p**
		0.982	0.055

The linear regression analysis indicates that both teachers' TPACK and perceived institutional support significantly predict their perceived online teaching presence (POTP). TPACK appears to be a stronger predictor compared to perceived institutional support (PIS). The model explains a substantial proportion (73.8%) of the variance in POTP, indicating that these factors are crucial in understanding teachers' readiness for online teaching and learning in higher education institutions in Cambodia. The reliability of the model is supported by the assumption checks, which show no significant issues with autocorrelation, multicollinearity, or non-normality of residuals.

Discussion

The current study aimed to explore how a teacher's teaching experience affects their readiness for Online Teaching and Learning (OTL) in higher education and how this relationship varies across different dimensions of readiness. The study contributes to a deeper understanding of the role that teaching experience plays in OTL preparedness, with implications for professional development and institutional support.

To what extent does a teacher's teaching experience affect their readiness for Online Teaching and Learning? (RQ1)

The results indicate that teaching experience positively influences a teacher's readiness for OTL. Specifically, teachers with more years of general teaching experience were more likely to express confidence in their ability to manage online environments and integrate technology effectively into their teaching. This finding is consistent with previous research that suggests experienced teachers tend to develop more effective pedagogical strategies, which can be adapted to online platforms (Dolighan & Owen, 2021). Teaching experience helps teachers build the pedagogical and classroom management skills that are essential for online education, such as providing clear instructions, fostering student engagement, and offering timely feedback. However, while teaching experience correlates positively with general readiness for OTL, it does not necessarily translate into expertise in the specific technological aspects of online teaching. Studies have shown that while experienced teachers often have strong content and pedagogical knowledge, they may struggle with integrating technology into their teaching, particularly if they have limited exposure to digital tools (Bennett et al., 2018). Therefore, although experience plays a role in overall readiness, continuous professional development focused on technology use remains essential for all teachers, regardless of their teaching experience (L. Archambault & Crippen, 2009).

The findings also highlight that teaching experience does not uniformly impact all aspects of OTL readiness. While teachers with more experience tend to feel confident in their pedagogical approaches, their self-efficacy in using digital tools varies, especially when they lack prior experiences with online learning environments (Scherer et al., 2023a). This supports the need for differentiated training that addresses the specific technological needs of more experienced educators.

How does the relationship vary across different readiness dimensions? (RQ 2)

This section examined the relationship between teaching experience and three primary dimensions of OTL readiness. The results revealed important variations in how teaching experience influences these dimensions.

Technological Pedagogical Content Knowledge

Teaching experience had a moderate effect on TPACK, with teachers who had more experience demonstrating higher self-efficacy in combining content knowledge with pedagogical strategies. However, the relationship between experience and technological knowledge (TCK) was weaker. This supports the argument by Mishra & Koehler (2006) that TPACK development requires not only pedagogical expertise but also continuous exposure to and practice with technology. Teachers with more experience may feel confident in delivering content, but their ability to effectively integrate technology into instruction might still be limited if they lack sufficient training in digital tools. Consequently, professional development programs that focus on enhancing teachers' technological skills are crucial, even for seasoned educators (L. M. Archambault & Barnett, 2010).

Perceived Online Teaching Presence

The study found a stronger relationship between teaching experience and perceived online teaching presence, particularly in areas such as clarity of instruction, cognitive activation, and feedback. Experienced teachers were more likely to report higher confidence in engaging students, guiding discussions, and maintaining active participation in online settings. It aligns with research that emphasizes the importance of pedagogical strategies in fostering student engagement and learning outcomes in online environments (Garrison, 2017). However, even experienced teachers require support in adapting traditional in-person engagement strategies to online formats, which often involve different dynamics in communication and interaction (Bolliger & Martin, 2018).

Perceived Institutional Support

Teaching experience had a more indirect relationship with perceived institutional support. Teachers with more years of experience were more likely to report positive perceptions of institutional backing, suggesting that experience contributes to their ability to navigate institutional systems and access resources. This finding is in line with prior studies, which show that experienced teachers often have more established networks within their institutions, allowing them to seek out support more effectively (Chea et al., 2022). However, this also indicates a potential gap for newer teachers, who may need more explicit guidance and institutional resources to feel equally supported in their online teaching endeavors (Scherer et al., 2023b).

CONCLUSION

The study provides valuable insights into the readiness of teachers for online teaching and learning in Cambodian HEIs. While teachers rate their competencies positively, there are clear areas for improvement, particularly in technological proficiency and institutional support. Addressing these gaps through comprehensive professional development and enhanced institutional support would significantly bolster the effectiveness of online teaching and learning in Cambodia.

Several key strategies should be implemented to improve the effectiveness of OTL in Cambodian Higher Education Institutions. TPACK integration is crucial, as combining technology, pedagogy, and content will enable teachers to design more interactive online lessons, improving learning outcomes (Mishra & Koehler, 2006; Su, 2023). Institutional support by providing access to resources, infrastructure, and continuous professional development is also essential for fostering readiness for OTL (L. Archambault & Crippen, 2009; Scherer et al., 2023a). Teacher self-efficacy should be promoted through workshops and training in digital tools, as higher self-confidence in online teaching correlates with better instructional outcomes (Dolighan & Owen, 2021; Rafique, 2024). Additionally, addressing the digital divide and gender disparities is important for creating a more inclusive academic environment and ensuring access to digital tools in rural areas (Scherer et al., 2023b; Vialichka, 2021). Tailored professional development programs that meet teachers' specific needs have been shown to improve digital competencies and pedagogical approaches, making them essential for continuous improvement (Bolliger & Wasilik, 2009; Martin, Budhrani, et al., 2019). Finally, feedback mechanisms should be

improved, as timely and constructive feedback is a key factor in student success in online learning environments (Bolliger & Martin, 2018; Y. Zhang et al., 2022).

REFERENCES

Amin Mydin, A., Alaklabi, S., & Alomar, A. (2022). A Review of Teachers' Self-Efficacy and to What Extent it is Influenced by Instructional Leadership in Educational Institutions. *International Transaction Journal of Engineering*, *13*(9), 1–12. https://doi.org/10.14456/ITJEMAST.2022.181

Archambault, L., & Crippen, K. (2009). Examining TPACK among K-12 online distance educators in the United States. *Contemporary Issues in Technology and Teacher Education*, *9*(1), 71–88. https://www.researchgate.net/publication/255629738_Examining_TPACK_among_K-12_online_distance_educators_in_the_United_States

Archambault, L. M., & Barnett, J. H. (2010). Revisiting technological pedagogical content knowledge: Exploring the TPACK framework. *Computers and Education*, *55*(4), 1656–1662. https://doi.org/10.1016/j.compedu.2010.07.009

Baroudi, S., & Shaya, N. (2022). Exploring predictors of teachers' self-efficacy for online teaching in the Arab world amid COVID-19. *Education and Information Technologies*, *27*(6), 8093–8110. https://doi.org/10.1007/s10639-022-10946-4

Bennett, S., Lockyer, L., & Agostinho, S. (2018). Towards sustainable technology-enhanced innovation in higher education: Advancing learning design by understanding and supporting teacher design practice. *British Journal of Educational Technology*, *49*(6), 1014–1026. https://doi.org/10.1111/BJET.12683

Bolliger, D. U., & Martin, F. (2018). Instructor and student perceptions of online student engagement strategies. *Distance Education*, *39*(4), 568–583. https://doi.org/10.1080/01587919.2018.1520041

Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education*, *30*(1), 103–116. https://doi.org/10.1080/01587910902845949

Branscum, A. Y. (2024). Best Practices of Online Teaching in Service-Learning. In *JSLHE*, *18*(2024), 269. https://journals.sfu.ca/jslhe/index.php/jslhe/article/view/495/269.

Chea, P., Bo, C., & Minami, R. (2022). *Working Paper Series No. 134 Cambodian Secondary School Teachers' Readiness for Online Teaching During the Covid-19 Pandemic*, *134*(2022). Phnom Penh: CDRI. https://www.researchgate.net/publication/361031720_Cambodian_Secondary_School_Teachers'_Readiness_for_Online_Teaching_During_the_Covid-19_Pandemic

Corry, M., & Stella, J. (2018). Teacher self-efficacy in online education: A review of the literature. In *Research in Learning Technology*, *26*(2018), 1-12. https://doi.org/10.25304/rlt.v26.2047

Dolighan, T., & Owen, M. (2021). Teacher Efficacy for Online Teaching During the COVID-19 Pandemic. *Brock Education Journal*, *30*(1), 95–116. https://doi.org/10.26522/brocked.v30i1.851

Eam, P. (2016). Factors Differentiating Research Involvement among Faculty Members: A Perspective from Cambodia. *Excellence in Higher Education*, *6*(1 & 2), 1–11. https://doi.org/10.5195/ehe.2015.133

Em, S., Khan, S., & Nun, N. (2023). Education System in Cambodia: A Brief Review from the Prehistoric Period to the Present, and an Education Strategic Plan for the Future. *FIRE: Forum for International Research in Education*, *7*(3), 141–164. http://dx.doi.org/10.32865/fire202273320

Em, S., Phann, S., & Khan, S. (2022). Cambodian EFL university students' perceptions of online learning effectiveness during the COVID-19 pandemic: A survey study. *Cambodian Journal of Educational Research*, *2*(2), 15–34. https://doi.org/10.62037/cjer.2022.02.02.02

Garrison, D. R. (D. R. (2017). *E-learning in the 21st century: a community of inquiry framework for research and practice* (3rd Edition). London: Routledge. https://www.routledge.com/E-Learning-in-the-21st-Century-A-Community-of-Inquiry-Framework-for-Research-and-Practice/Garrison/p/book/9781138953567

Gordon, D., Blundell, C., Mills, R., & Bourke, T. (2023). Teacher self-efficacy and reform: a systematic literature review. *The Australian Educational Researcher*, *50*(3), 801–821. https://doi.org/10.1007/s13384-022-00526-3

Horvitz, B., & Beach, A. (2011). Professional Development to Support Online Teaching. *Journal of Faculty Development*, *9*(2), 24–32. https://eric.ed.gov/?id=EJ975178

Ma, X., & Marion, R. (2021). Exploring how instructional leadership affects teacher efficacy: A multilevel analysis. *Educational Management Administration & Leadership*, *49*(1), 188–207. https://doi.org/10.1177/1741143219888742

Martin, F., Budhrani, K., & Wang, C. (2019). Examining Faculty Perception of Their Readiness to Teach Online. *Online Learning*, *23*(3), 97-119. https://doi.org/10.24059/olj.v23i3.1555

Martin, F., Ritzhaupt, A., Kumar, S., & Budhrani, K. (2019). Award-winning faculty online teaching practices: Course design, assessment and evaluation, and facilitation. *The Internet and Higher Education*, *42*(2019), 34–43. https://doi.org/10.1016/j.iheduc.2019.04.001

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record: The Voice of Scholarship in Education*, *108*(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Pors, S. (2016). *Introducing and implementing an online learning environment in a Cambodian academic program: Impacts, enabling factors and constraints*. Melbourne: University of Melbourne.

Rafique, R. (2024). Supporting teachers through online professional development: a small-scale qualitative study with teachers in Bangladesh. *Open Learning: The Journal of Open, Distance and e-Learning*, *39*(2), 112–131. https://doi.org/10.1080/02680513.2024.2316629

Ramakrishnan, R., & Salleh, N. M. (2019). Teacher's Self-Efficacy: A Systematic Review. *International Journal of Academic Research in Business and Social Sciences*, *8*(12), 2379-2402. https://doi.org/10.6007/IJARBSS/v8-i12/5448

Scherer, R., Siddiq, F., Howard, S. K., & Tondeur, J. (2023a). Gender divides in teachers' readiness for online teaching and learning in higher education: Do women and men consider themselves equally prepared? *Computers and Education*, *199*(2023), 104774.

https://doi.org/10.1016/j.compedu.2023.104774

Scherer, R., Siddiq, F., Howard, S. K., & Tondeur, J. (2023b). 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*(2023), 107530. https://doi.org/10.1016/j.chb.2022.107530

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. In *Journal of Research on Technology in Education 42*(2), 123–149. https://doi.org/10.1080/15391523.2009.10782544.

Soeung, S., & Chim, V. (2022). Cambodian Teachers' Perceptions of Online Teaching: During and Beyond the COVID-19 Pandemic. *FIRE: Forum for International Research in Education, 7*(3), 38–53. https://doi.org/10.32865/fire202273291

Sok, S., & Bunry, R. (2023). Higher Education in Cambodia. In L. P. Symaco & M. Hayden (Eds.), *International Handbook on Education in South East Asia* (pp. 1–24). Berlin: Springer. https://doi.org/10.1007/978-981-16-8136-3_47-1

Su, Y. (2023). Delving into EFL teachers' digital literacy and professional identity in the pandemic era: Technological Pedagogical Content Knowledge (TPACK) framework. *Heliyon, 9*(6), e16361. https://doi.org/10.1016/J.HELIYON.2023.E16361

Vialichka, U. (2021). *Country report Cambodia*. Cambodia: Education for Everyone. Worldwide. Lifelong. https://www.dvv-international.de/fileadmin/files/Inhalte_Bilder_und_Dokumente/News/2022/01_Digitalisation_in_ALE_in_Asia_Country_report_Cambodia.pdf

Yang, X., & Du, J. (2024). The effect of teacher self-efficacy, online pedagogical and content knowledge, and emotion regulation on teacher digital burnout: a mediation model. *BMC Psychology*, *12*(1), 51. https://doi.org/10.1186/s40359-024-01540-z

Zgheib, G., Al Daia, R., & Serhan, M. (2023). A contextual approach for exploring faculty readiness to teach online. *Heliyon*, *9*(10), e20491. https://doi.org/10.1016/j.heliyon.2023.e20491

Zhang, W., & Tang, J. (2021). Teachers' TPACK Development: A Review of Literature. *Open Journal of Social Sciences, 09*(07), 367–380. https://doi.org/10.4236/jss.2021.97027

Zhang, Y., Tian, Y., Yao, L., Duan, C., Sun, X., & Niu, G. (2022). Individual differences matter in the effect of teaching presence on perceived learning: From the social cognitive perspective of self-regulated learning. *Computers & Education*, *179*(2022), 104427. https://doi.org/10.1016/j.compedu.2021.104427