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Analyzing Teaching Self-Efficacy Correlates in Virtual Education: A Gender-Driven Structural Equation Modeling Approach

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ABSTRACT

The study focused on the Philippines' education system, which abruptly adopted to online education due to the COVID-19 pandemic. The study used different theories to explore the relationships between online teaching self-efficacy and other affective variables. The researchers used structural equation modeling (SEM) to develop a model that showed the correlations among the identified variables in general and when grouped according to gender. The study found that only three pairs of latent variables were positively correlated at an average extent, indicating a low correlation between the variables. The findings drawn out from the final model can certainly benefit teacher-educators and institutional leaders alike who would most probably explore the idea of introducing the online modality as a supplementary requirement for the preservice teachers' internship in the near future. Thus, institutions that offer education programs must find ways and means to motivate preservice teachers to online teaching as there are revealed to be the rudiments, based on the final model to a positive attitude and a favorable satisfaction level toward online language teaching.

KEYWORDS: Structural Equation Modeling (SEM) Approach, Gender, Preservice Teachers, Online Teaching Self-Efficacy

INTRODUCTION

The COVID-19 pandemic caused educational institutions to shift from face-to-face to online education to maintain the continuity of education. This sudden switch caused various issues, including anxious educators who lacked the technological skills to teach online effectively. Preservice teachers were the focus of the study because they are most vulnerable to the affective factors associated with their self-efficacy toward online teaching. This study aimed to investigate the impact of affective variables on the online teaching self-efficacy of preservice teachers, specifically in the virtual setting. The available literature mainly focuses on traditional face-to-face education, and there is limited research on self-efficacy in online teaching (e.g., Akcali, 2017; Bagceci & Cinkara, 2013; Bagci & Atar, 2018; Basoz, 2016; Bozdogan & Ozen, 2014; Chang et al., 2014; Ersanli, 2016; Sali, 2013; Sy, 2018; Tufecki-Can, 2018). In addition, there seems to be a lack of studies that look at the variables affecting teaching self-efficacy in a holistic manner. Most of the studies available took on only one (1) variable that may affect an educator's self-efficacy (Afroz et al., 2021; Aguilar-Cruz & Medina, 2021; Atar et al., 2019; Aslan, 2021; Blundell et al., 2020; Can & Karacan, 2021; Caner & Aydin, 2020; Civelek et al., 2021; Er & Karatas, 2021; Lee & Ogawa, 2021; Ricohermoso, 2021; Rizkiani, 2022; Yastibas, 2021; Zembat et al., 2020). Also, to some extent, there is a lack of studies that address self-efficacy of preservice teachers, as most studies tend to delve and investigate the self-efficacy levels of in-service teachers. Generally, there are an ample number of studies directed toward the effects of various factors for the in-service teacher's sense of self-efficacy (Afroz et al., 2021; Ahamat & Abdullah, 2019; Blundell et al., 2020; Cankaya, 2018; Don et al., 2021; Mercer et al., 2016); hence, this investigation.

The unexpected outbreak of the COVID-19 pandemic during the first quarter of 2019 caught every nation off-guard. In response to the pandemic, educational institutions have switched from the traditional face-to-face education modality to the online education modality in an effort to maintain the continuity of education among learners worldwide. This sudden switch in instruction modalities caused numerous issues to arise, such as curriculums ill-suited to be taught online, lack of equipment needed to conduct remote classes effectively, and anxious educators whose training focused largely on face-to-face classes and are likely unequipped with the needed technological skills to teach online effectively (Aguilar-Cruz & Medina, 2021; Hartley, 2007).

Furthermore, the adherence of most, if not all, higher education institutions to the traditional face-to-face modality made it difficult to equip and educate these preservice teachers for online teaching. As such, these gave the researchers several lines of inquiry to reflect on regarding the online teaching self-efficacy of the preservice teachers in this new modality, questions such as: Will they be able to effectively use technology to further their pedagogical objectives? Do they have enough access to appropriate technology? How will preservice teachers feel about teaching digitally? Will they be anxious? motivated and satisfied? These are some of the factors that may affect the teaching performance of preservice teachers as they carry out their teaching internships through digital means. Despite these issues, digital education has been the new method of instruction adopted by educational institutions to cope with the health and safety risks brought about by the pandemic at that time. Moreover, digital education, as observed, has been implemented hastily for purposes of maintaining the continuity of education amidst the then situation (Afroz et al., 2021).

The sudden shift toward digital education came with a lack of proper and competent planning, preparation, and training before it was implemented (Afroz et al., 2021; Yastibas, 2021). Thus, this led to several distresses observed among preservice teachers. Anxiety levels rose due to the lack of proper access and competence in technology (Liza & Andriyanti, 2020; Aguilar-Cruz & Medina, 2021). In fact, increased anxiety levels, if left unchecked, can lead to the deterioration of preservice teachers' attitude levels (Wang & Zhang, 2021). The satisfaction and motivation levels of the preservice teacher can also contribute to the reduction of a preservice teacher's self-efficacy (Ismail, 2018 & Batmang et al., 2021). Lowered self-efficacy leads to ineffective teaching performance, consequently degrading the quality of education in the long run (Kim, 2019). Therefore, based on existing studies, the researchers hypothesize that the online teaching self-efficacy of a preservice language teacher may be affected by several factors, namely, online language teaching anxiety, online teaching satisfaction, online teaching motivation, attitude toward online language teaching, attitude toward digital reading, technological competence, and technological access.

LITERATURE REVIEW

The present literature review delves into critical aspects of online education, analyzing the intricate relationship between self-efficacy, anxiety, satisfaction, motivation, attitudes toward online teaching, and technological competence and access among educators.

Zembat (2021) accentuates the pivotal role of teachers in nurturing students' educational success through fostering self-efficacy beliefs. Notably, Eginli (2021) underscores the significance of this during preservice teachers' internship teaching, emphasizing the impact of self-efficacy on achieving learning objectives. Oguz Er (2019) further elucidates that high self-efficacy levels in educators augment their pedagogical abilities and directly influence student engagement and learning outcomes. However, it is crucial to recognize, as posited by Pajares (1996), that while high self-efficacy is often a predictor of success, it is not a deterministic factor, and other elements such as available resources come into play, as emphasized by Bandura (1986; 1995).

Shifting focus to anxiety, Ameen et al. (2002) elucidate how this negative emotion can significantly impede an educator's pedagogical processes and overall teaching performance. The definition by Freud (1936) emphasizes the multifaceted nature of anxiety and its detrimental impact on mental well-being across diverse contexts.

In the realm of satisfaction, Suganya and Sankareshwari (2020) elucidate how this positive emotional sensation is associated with a sense of validation and happiness, especially concerning pedagogical tasks. Rezaee et al. (2020) aptly elaborate on the multifaceted nature of factors influencing satisfaction, encompassing psychological, physiological, and environmental aspects. This complex interplay highlights that satisfaction is influenced by both internal and external factors, as acknowledged by Bolliger and Wasilisk (2009) and Rezaee et al. (2020).

Motivation, a critical factor in educational contexts, encompasses intrinsic, extrinsic, and integrative-instrumental motivation, each playing a crucial role in an individual's performance (Ryan & Deci, 2000; Vandergrift, 2005; Dörnyei, 2003). The literature underscores that during internship teaching, positive and negative emotions can significantly impact a preservice teacher's motivation (Mendez-Lopez, 2020; Ismail, 2019). This period emerges as a critical juncture

influencing an individual's motivation to teach.

The literature also delves into attitudes toward online teaching and digital reading, particularly in the context of the COVID-19 pandemic driving global adoption of online education (Afroz et al., 2021). Bagceci and Cinkara (2013), and Gokcearslan et al. (2016) highlight the pivotal role of attitudes in shaping preservice teachers' perception and feelings towards online language teaching. Additionally, the positive impact of digital reading, especially for non-native English learners, is outlined (Elkiran, 2021; Manalu, 2019; Pardede, 2019), emphasizing the potential of digital texts in enhancing learning outcomes and pedagogical strategies (Pratolo & Solikhati, 2021).

Technological competence and access are identified as foundational requisites for effective online teaching (Rizkiani, 2022). Possessing technological competence equips educators to leverage technology for enriched learning experiences (Saricoban et al., 2019), a sentiment echoed by Atar et al. (2019). Furthermore, technological access emerges as a critical determinant affecting satisfaction levels and educational content dissemination (Aguilar-Cruz, 2018; Mahmod, 2019; Polyxeni & Papadopoulou, 2013). However, challenges related to technological access, such as network failures and device shortages, pose significant obstacles (Aguilar-Cruz & Medina, 2021), underscoring the necessity for equitable access to technology in ensuring effective online education.

In conclusion, this critical review of related literature illuminates the interconnectedness of various factors impacting online teaching, shedding light on the complex dynamics shaping educators' experiences and performances in the digital realm. The literature underscores the critical need for holistic support, encompassing self-efficacy enhancement, anxiety mitigation, satisfaction facilitation, motivation cultivation, attitudinal awareness, and technological proficiency to foster an enriched online educational environment. Additionally, it underscores the critical role of equitable technological access to realize fully the potential of online education.

Research Questions

The present research set out to answer the following questions:
Research Question 1: Is there statistical correlation among identified variables in the study?

Research Question 2: Does the hypothesized model describe the nature of the relationships of the constructs, namely, respondents' perceived level of online teaching self-efficacy and their perceived extent of online language teaching anxiety, extent of online teaching satisfaction, level of online teaching motivation, attitude toward online language teaching, attitude toward digital reading, levels of technological competence, and technological access while retaining reasonable good fit?

METHODOLOGY

Research Design

This study utilized a descriptive-quantitative-correlational design. It is descriptive, quantitative, and correlational in nature and used Spearman's Rank-Order Correlation and structural equation modeling (SEM) to analyze data and identify significant associations between variables. The study is cross-sectional and nonexperimental, with data collected in a relatively short period of time and

without controlled or experimental groups. SEM was used as it can assess and correct measurement error, which other multivariate techniques cannot.

Research Sites

The target population was from higher education institutions (HEIs), mostly public HEIs, and one was a private and sectarian institution. Specifically, HEI "A" is known as a state college in Western Mindanao that offers courses in marine studies and fisheries and is the only Center of Excellence in Fisheries in Region IX through its Bachelor of Science in Fisheries. HEI "B" is the only Jesuit University in Western Mindanao and is known for having been granted a fully autonomous status by CHED; thus, it is one of the only thirty (30) higher education institutions in the country with full deregulation and autonomy and the only institution in Western Mindanao. HEI "C" is one of the top universities and one of the leading higher education institutions in Mindanao, with fourteen (14) external campuses or ESUs, labeled in this study as HEI "C-1 to C-14", respectively. Last, HEI "D" is a newly converted State University (last April 2021) in Western Mindanao, and it envisions itself to become one of the best polytechnic schools in the country. The characterized HEIs are the sampling frame of this study.

Population Sampling Procedure

The target population for this study was fourth-year Bachelor in Secondary Education students specializing in English, and fourth-year Bachelor in Elementary Education, Bachelor in Early Childhood Education, and Bachelor in Special Needs Education students who underwent online internship during the second semester of academic year 2021-2022. The researchers employed stratified random sampling to select a sample size of 262 respondents with a proportional distribution across all higher education institutions. Then, the sample size in each stratum was determined by multiplying the relative frequency by the subpopulation, as shown in Table 1 below.

Table 1. *Distribution of Samples*

Name of HEI	Subpopulation	Relative Frequency	Sample Size Desired
HEI "A"	42	5.58%	15
HEI "B"	10	1.33%	3
HEI "C"	167	22.18%	58
HEI "C-1"	34	4.52%	12
HEI "C-2"	43	5.71%	15
HEI "C-3"	42	5.58%	15
HEI "C-4"	29	3.85%	10
HEI "C-5"	12	1.59%	4
HEI "C-6"	62	8.23%	22
HEI "C-7"	36	4.78%	12
HEI "C-8"	23	3.05%	8
HEI "C-9"	29	3.85%	10
HEI "C-10"	26	3.45%	9
HEI "C-11"	37	4.91%	13
HEI "C-12"	20	2.66%	7
HEI "C-13"	47	6.24%	16
HEI "C-14"	37	4.91%	13

HEI "D"	57	7.57%	20
Total	**753**	**100%**	**262**

Among the 262 total for the sample size desired, 165 of them were female while 47 were male. According to Kline (2015), the sample size for SEM can be calculated using the N:q rule which is the ratio between the number of observations to the number of parameters in the model. Kline (2015) recommended that the N:q ratio should be at least 20:1. For this study, a total of six (6) latent variables in the final model with six (6) paths are identified. The total number of parameters is the sum of the variables and paths, which is equal to twelve (12). Then, the minimum sample size for SEM is calculated by multiplying the total parameters of twelve (12) with twenty (20), which is equal to 240. Therefore, the sample size of 262 for this study warrants the use of SEM. Moreover, according to Kline's (2005) guidelines as cited in In'nami and Koizumi (2011), a sample size of 258.5, as observed in actual studies, is adequate for SEM analysis while a sample size of 99 or below is deemed insufficient. Tabachnick and Fidell (2001) and Kline (2010) claimed that some researchers recommend a minimum sample size of 100-200. However, one should be cautious when applying these general rules.

Research Instruments

To answer the research questions imposed, the study adopted eight tools taken from various studies:

The researchers used a 29-item questionnaire by Lee and Ogawa (2021) to measure the preservice teachers' online teaching self-efficacy. The questionnaire is based on four constructs, namely online pedagogical self-efficacy, online technological self-efficacy, online communicative language teaching self-efficacy, and online self-management efficacy.

The researchers used a 27-item questionnaire from Sari and Anwar (2021) to measure the online language teaching anxiety of preservice teachers. The questionnaire has five constructs: (1) Teaching Inexperience (items 1-5); (2) Self-perception of language proficiency (items 6-17); (3) Fear of negative evaluation (items 18-20); (4) Lack of student's interest (items 21-24); and (5) Difficulty with time management (items 25-27).

The preservice teachers' online teaching satisfaction was assessed using a questionnaire from Bolliger and Wasilisk's (2009) study. It includes 27 items with answer options on a scale of one to four and is organized into three constructs: (1) student-related factors, covering items 1, 2, 3, 7, 10, 11, 12, 16, 17, 19, 20, 21, 24, 26, and 27; (2) instructor-related factors, covering items 4, 5, 8, 13, 14, 22, and 23; and (3) institution-related factors, covering items 6, 15, and 25. The questionnaire also includes two general satisfaction questions (no. 9 and no. 18).

The researchers used a questionnaire from Er and Karatas (2021) to measure the online teaching motivation of preservice teachers. The questionnaire contains ten items with response options ranging from one to five. It is divided into two constructs: internal motivation (items 1, 2, 3, 8, 9, and 10) and external motivation (items 4, 5, 6, and 7).

The researchers used Javier's (2020) questionnaire to measure preservice teachers' attitude toward online language teaching. It has 30 items with answer options ranging from one to four. The instrument has three constructs, including affective, cognitive, and behavior sections.

Researchers utilized the tool developed by Maden (2018) to identify preservice teachers' attitudes toward digital reading. It contains 26 items with responses on a scale of one to four. This instrument measures two constructs, including a reading psychology dimension (items 1-8) and a daily use dimension (items 9-26).

To measure the technical competence of the preservice teachers, the questionnaire developed by Javier (2020) was utilized. It consists of 10 items with responses ranging from one to four.
Researchers used Soomro et al.'s (2018) questionnaire for technological access, which has 57 items with responses ranging from one to three. This instrument covers eight constructs: Physical Access (items 1-13), Endogenous Motivational Access (items 14-17), Exogenous Motivational Access (items 18-21), Operational Skills Access (items 22-28), Informational Skills Access (items 29-34), Strategic Skills Access (items 35-40), General Usage Access (items 41-48), and Instructional Usage Access (items 49-57).

Instrument Validation and Reliability

The study utilized eight instruments from previous studies due to time and resource limitations caused by the COVID-19 pandemic. Lee and Ogawa's (2021) instrument was used to measure online teaching self-efficacy, Sari and Anwar's (2021) questionnaire measured online language teaching anxiety, Bolliger and Wasilisk's (2009) questionnaire measured satisfaction with online teaching, Er and Karatas's (2021) questionnaire measured online teaching motivation, Javier's (2020) questionnaire measured attitudes towards online language teaching and technical competence, Maden's (2018) tool measured attitudes towards digital reading, and Soomro et al.'s (2018) questionnaire measured technological access. The validity and reliability of the instruments were established through various methods such as pilot testing, expert consultation, Scree testing, and Cronbach's alpha test.

Data Gathering Procedure

Due to the uncertain situation at that time this study was conducted, the researchers had two contingencies in gathering the data, specifically:
The first contingency is the digitalization of the research instruments using Google Documents and Google Forms. This would be the digital method of gathering the data from the respondents. This methodology was carried out in a contactless manner, prioritizing the health and safety of those involved against the COVID-19 virus. The second contingency is, in the event that limited face-to-face classes is implemented, the research instruments will be printed, and hard copies will be distributed to the respondents of this study. Notably, the first contingency was used in the data gathering process because at the time when instruments were about to be distributed to HEIs concerned, no face-to-face sessions had yet been authorized by the Commission on Higher Education (CHED) through the COVID-19 Inter-Agency Task Force (IATF) for the Management of Emerging Infectious Diseases.
The researchers obtained approval and ethics clearance before data gathering. They coordinated with designated faculty in each institution, who were given a link to the instruments. Students read the informed consent and decided whether to participate, then answered the instruments. The researchers gave respondents four weeks to answer the instruments and followed up through the designated faculty to remind those who had not yet responded.

Data Screening

Before running any statistical methods such as structural equation modeling (SEM), the data was carefully screened for several characteristics. First, in the current study, negatively phrased items were reversed to prepare the data for subsequent analyses. Second, data were examined in terms of (1) missing values, (2) normality, (3) homoscedasticity, and (4) multicollinearity (Kline, 2005).

Statistical Treatment

To facilitate the analysis of data, the following statistical tools were used: Statistical Package for Social Sciences (SPSS) version 26.0 and Analysis of Moment Structures (AMOS) version 26.0.

Spearman's Correlation. This measure is used to determine whether a simple linear relationship exists between two variables and measures without dimensions (Al-Hameed, 2022). Spearman's correlation is a non-parametric measure of the strength and direction of the monotonic relationship between two variables. In contrast to Pearson's correlation which assumes a linear relationship between the variables, Spearman's correlation does not assume any particular form of the relationship between the variables. Moreover, according to Al-Hameed (2022), the rule of thumb in interpreting the size of the correlation coefficient (*r*) are as follows:

Table 2. ***Interpreting the size of the correlation coefficient (r)***

Value of correlation coefficient (*r*)	Interpretation
+1	Completely positive correlation
0.70 to 0.99	Strong positive correlation
0.50 to 0.69	Average positive correlation
0.01 to 0.49	Weak positive correlation
0	Not a positive relationship

Structural Equation Modeling (SEM). The collected data were first submitted to SPSS to prepare them as data input usable for running the structural equation modeling (SEM) analysis using the "Analysis of Moment Structures" (AMOS).

Ethical Considerations

The study ensured the voluntary compliance of preservice teachers, avoiding coercion or persuasion. No pressure was exerted on the participants, and they were informed of the absence of merit or demerit for participation. Ethics clearance was obtained from the Zamboanga City Medical Center's Ethics Review Board. The researchers adopted measures to protect the privacy and confidentiality of the data, including the use of passwords, deletion of softcopies after a year, and physical shredding of hardcopies. No compensation or conflict of interest was present, and no personal information was collected from the participants.

FINDINGS

To answer research questions 1 and 2, the quantitative data obtained were analyzed and tabulated using SPSS version 26.0 and Analysis of Moment Structures (AMOS) version 26.0, respectively.

Research question 1

Table 3. ***Average Positive Correlation Analysis for the Latent Variables***

Pairwise Correlation	Spearman Correlation Value	Interpretation
CC-EC	0.564**	Average Positive Correlation
DC-EC	0.559**	
EC-FC	0.518**	

Legend

CC: Online Teaching Satisfaction
DC: Online Teaching Motivation
EC: Attitude toward Online Language Teaching
FC: Attitude toward Digital Reading

The study's results show three pairs of latent variables that are positively correlated at an average extent, namely online teaching satisfaction and attitude toward online language teaching, online teaching motivation and attitude toward online language teaching, and attitude toward online language teaching and attitude toward digital reading. Previous studies by Vezne (2020), Mateus et al. (2021), and Civelek et al. (2021) support these findings and suggest that preservice teachers' satisfaction and motivation levels in online teaching can positively influence their outlook toward online teaching and digital reading. These results imply that constructively nurturing preservice teachers' motivation and satisfaction levels can positively impact their attitudes toward online teaching and related components.

Table 4. ***Weak Positive Correlation Analysis for the Latent Variables***

Pairwise Correlation	Spearman Correlation Value	Interpretation
AC-DC	0.495**	Weak Positive Correlation
FC-GC	0.490**	
EC-GC	0.475**	
CC-FC	0.460**	
AC-FC	0.459**	
AC-EC	0.451**	
AC-BC	0.441**	
CC-DC	0.427**	
AC-CC	0.425**	
DC-FC	0.360**	
CC-GC	0.356**	
DC-GC	0.315**	
FC-HC	0.281**	
GC-HC	0.271**	
AC-GC	0.248**	
EC-HC	0.224**	
CC-HC	0.193**	

Legend

AC: Online Teaching Self-Efficacy
BC: Online language Teaching Anxiety
CC: Online Teaching Satisfaction
DC: Online Teaching Motivation
FC: Attitude toward Digital Reading
GC: Technological Competence
HC: Technological Access
EC: Attitude toward Online Language Teaching

The study found 17 pairs of correlated latent variables, with weak positive correlations between them. The variable with the most correlated pairs was online teaching self-efficacy, which had six correlated pairs. Four latent variables were correlated with online teaching satisfaction only at a small extent, while two variables were correlated with attitude toward digital reading, attitude toward online language teaching, and online teaching motivation at a

weak level. Technological competence and access were correlated with both attitude toward digital reading and attitude toward online language teaching. Online teaching motivation was found to be correlated with a preservice teacher's attitude toward digital reading and their technological competence. Technological competence was found to be correlated with only technological access. These findings indicate that preservice teachers' views and abilities toward digital media and online teaching can be improved through proper utilization of technological resources. In addition, self-efficacy is often a powerful predictor of a preservice teacher's pedagogical capabilities, which suggests that it can play a viable role in predicting the efficacy or effectiveness of future educators. The results are consistent with previous research and support the positive implications of gaining technological access for increasing preservice teachers' level of technological competence.

Table 5. ***Weak Negative Correlation Analysis for the Latent Variables***

Pairwise Correlation	Spearman Correlation Value	Interpretation
BC-EC	-0.365**	Weak Negative Correlation
BC-DC	-0.352**	
AC-BC	-0.218**	
BC-HC	-0.140*	

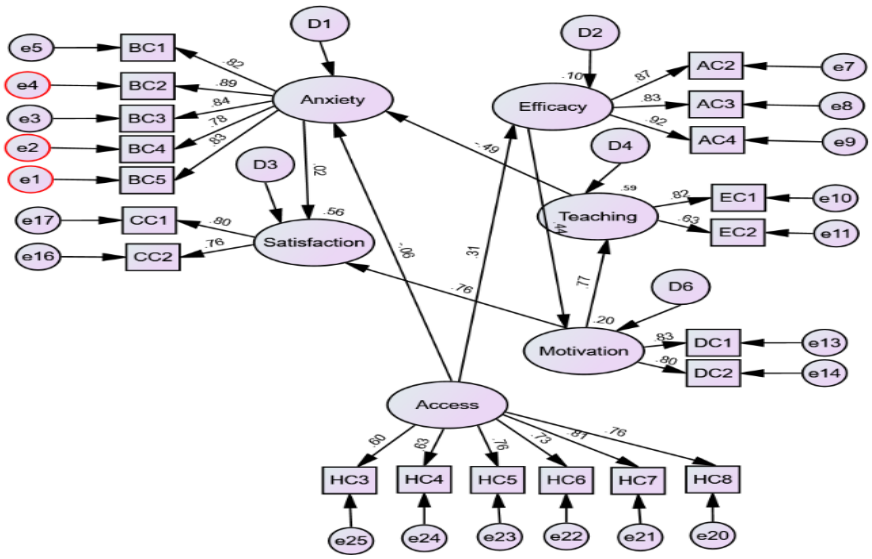
Legend

AC: Online Teaching Self-Efficacy
BC: Online language Teaching Anxiety
DC: Online Teaching Motivation
HC: Technological Access
EC: Attitude toward Online Language Teaching

The study identified four pairs of weakly negatively correlated latent variables among preservice language teachers: online language teaching anxiety-attitude toward online language teaching, online language teaching anxiety-online teaching motivation, online teaching self-efficacy-online language teaching anxiety, and online language teaching anxiety-technological access. Anxiety was observed to negatively affect preservice teachers' attitudes, motivation, and access to technology in online language teaching. Additionally, low levels of self-efficacy were found to increase anxiety in online language teaching. These findings were supported by previous studies conducted by Afroz et al. (2021) and Aguilar-Cruz and Medina (2021), which found that anxiety and lack of technological resources can negatively affect preservice teachers' online teaching performance and motivation. The researchers suggest that self-efficacy can positively affect preservice teachers' online teaching performance and mental well-being.

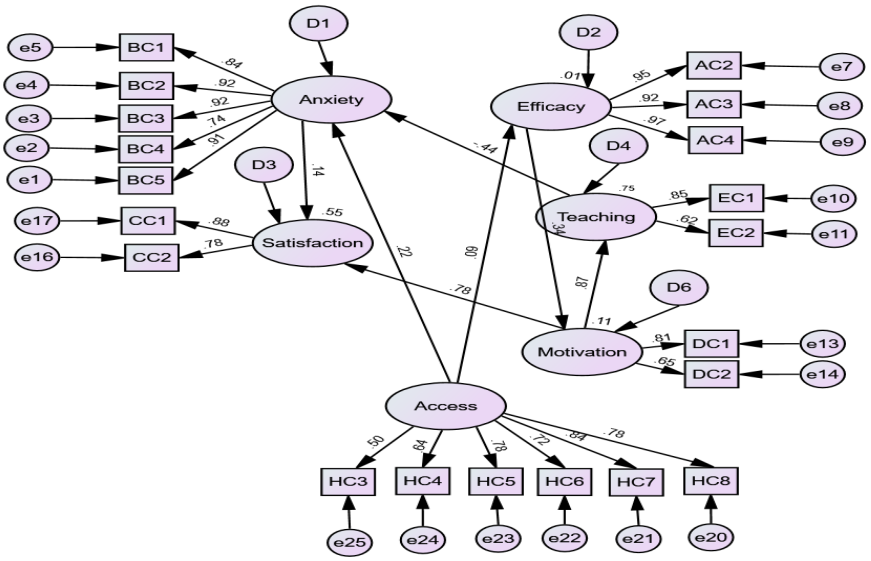
Research question 2

Figure 1. ***Final Model for all Respondents (n = 262)***



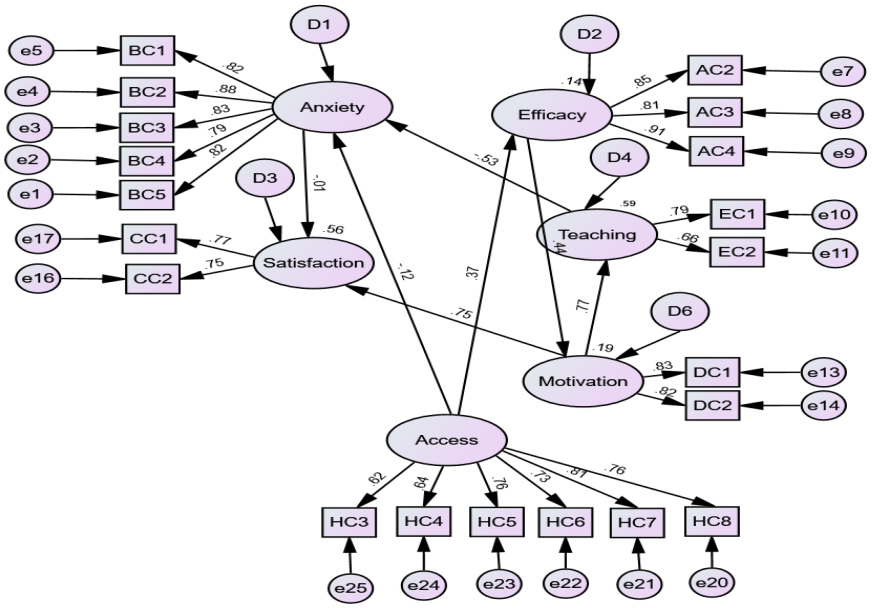
The model generated from all the participants serves as the foundation for the models created for each gender. Below in Figure 1 is the final model for male respondents (n = 47).

Figure 2. ***Final Model for Male Respondents (n = 47)***



For the male preservice teacher respondents and based on the figure as shown above, their online teaching motivation significantly impacts the preservice teachers' online teaching satisfaction ($\gamma = 0.78$, $p < 0.001$) and attitude toward online language teaching ($\gamma = 0.87$, $p < 0.001$). Online teaching self-efficacy meanwhile directly influences online teaching motivation ($\gamma = 0.34$, $p < 0.05$), and attitude toward online language teaching directly and negatively impacts online language teaching anxiety ($\gamma = -0.44$, $p < 0.01$). These results indicate that for male preservice teachers, online teaching motivation is a strong predictor of online teaching satisfaction and a positive attitude toward online language teaching. Additionally, having good self-efficacy beliefs can motivate preservice teachers to conduct online teaching. In addition, a positive attitude toward online language teaching may lead to less anxiety in online language teaching (and vice versa).

Figure 3. ***Final Model for Female Respondents (n = 165)***



The study found that for female preservice teachers, technological access significantly influences online teaching self-efficacy which then significantly influences online teaching motivation, attitude toward online language teaching, and online teaching satisfaction. Moreover, attitude toward online language teaching can directly and negatively impact online language teaching anxiety. Online teaching motivation is also a strong predictor of satisfaction with online teaching and can generate a positive attitude toward online language teaching. It was also observed that technological access is an important factor in online teaching self-efficacy for female preservice teachers. On the other hand, the study found that for male preservice teachers, online teaching motivation is a strong predictor of online teaching satisfaction and a positive attitude toward online language teaching. Additionally, having good self-efficacy beliefs can motivate preservice teachers to conduct online teaching. In addition, a positive attitude toward online language teaching may lead to less anxiety in online language teaching. However, the study found that for both male and female preservice teachers, technological access does not influence online language teaching anxiety, and the latter variable does not influence online teaching satisfaction. Furthermore, the study found that online teaching motivation is indirectly linked to online teaching satisfaction through attitude toward online language teaching. Notably, online language teaching anxiety does not significantly predict online teaching satisfaction for either group.

DISCUSSION

The study's findings, substantiated by Vezne's (2020) research, illuminate a significant relationship between the satisfaction levels of preservice teachers with their online internship teaching and their subsequent attitudes toward online teaching. The implication is that the satisfaction derived from the online teaching experience can wield a considerable influence over the overall outlook of preservice educators. Furthermore, the researcher posits that fostering positive impacts on preservice teachers' outlooks can be achieved through the implementation of meaningful and constructive learning experiences. This underscores the pedagogical importance of not only meeting the technical demands of online teaching but also creating a supportive and engaging learning environment.

In alignment with this, the study unveils a compelling correlation between the online teaching motivation of preservice teachers and their attitudes toward online language teaching, as corroborated by Mateus et al.'s (2021) findings. The research indicates that the motivation levels of preservice teachers play a pivotal role in shaping their perceptions of the online teaching modality. As such, it is suggested that a deliberate effort to nurture and enhance the motivation levels of preservice teachers could positively influence their overall outlook toward online teaching. This reinforces the notion that the psychological and motivational aspects of educators are intertwined with their attitudes and effectiveness in an online teaching setting.

Moreover, the study uncovers a noteworthy correlation between preservice teachers' attitudes toward online language teaching and their attitudes toward digital reading. The positive influence observed suggests that a heightened outlook toward online language teaching corresponds to an increased positive attitude toward digital reading, a finding aligned with Civelek et al.'s (2021) research. This correlation signifies a symbiotic relationship between attitudes toward key components of the online modality, implying that a positive outlook toward online teaching correlates with a favorable attitude toward digital reading. This insight holds implications for curriculum design and instructional strategies, emphasizing the interconnectedness of attitudes toward various facets of online education.

Conversely, delving into negative correlations, the study sheds light on the impact of online language teaching anxiety on preservice teachers' attitudes. Anxiety is identified as a factor that negatively influences attitudes toward online language teaching, online teaching motivation, and technological access at a small or meager intensity. This aligns with prior research by Afroz et al. (2021) and Aguilar-Cruz & Medina (2021), indicating that anxiety contributes to negative perceptions and demotivation, especially in the absence of necessary technological resources. Understanding these dynamics emphasizes the importance of providing adequate support, resources, and training to alleviate anxiety and enhance the overall experience of preservice teachers in online teaching contexts.

In a positive turn, the study also reveals that online teaching self-efficacy has a mitigating effect on online language teaching anxiety, suggesting that lower self-efficacy levels may contribute to increased anxiety when teaching online. This finding underscores the constructive role of self-efficacy in influencing the online teaching performance and psychological well-being of preservice teachers. It implies that interventions aimed at

boosting self-efficacy, such as targeted professional development and mentorship programs, may serve as effective strategies in alleviating anxiety and enhancing the overall effectiveness of preservice teachers in online teaching environments.

CONCLUSION

The study observed favorable mean scores for various factors and constructs in the context of English Language Teaching (ELT), except for online language teaching anxiety and its subcategories, which exhibited uncertainty. Specifically, preservice teachers expressed contentment with online teaching concerning aspects related to students and instructors. However, they perceived dissatisfaction with factors associated with the educational institution. Moreover, respondents displayed a positive attitude toward online language teaching, albeit with a somewhat negative outlook in the cognitive domain.

Regarding gender differences, the Mann-Whitney U Test did not reveal significant variations in most latent variables. Only minor discrepancies were noted in online teaching satisfaction and motivation, leading to the acceptance of the null hypotheses. Spearman's rank correlation coefficient indicated that only a few pairs of latent variables exhibited a significant positive correlation, while many displayed weak correlations, and a few presented negative correlations.

In alignment with the final model, a negative perspective on online language teaching could heighten online teaching anxiety levels among preservice teachers. Conversely, when motivated to teach online, respondents were more likely to experience satisfaction and develop a positive attitude toward online language teaching. Access to technology emerged as a pivotal factor influencing self-efficacy in teaching online, subsequently boosting motivation. Particularly, it was observed that technological access directly and positively influenced online teaching self-efficacy.

In both male and female preservice teachers, the models showcased similarities. Motivation to engage in online teaching emerged as a precursor to satisfaction and a positive attitude toward online language teaching. Additionally, self-efficacy in online teaching was linked to enhanced motivation. However, a negative perception of online language teaching could escalate anxiety levels in both gender groups. Notably, for female respondents, technological access played a critical role in online teaching self-efficacy but did not predict anxiety or satisfaction levels for either group.

In summary, the study emphasized the pivotal role of online teaching motivation, a positive outlook toward online language teaching, and self-efficacy in alleviating anxiety and enhancing satisfaction in the realm of online English Language Teaching (ELT).

REFERENCES

Afroz, R., Anny, N.Z., Islam, N., & Rahman, S. (2021). View of students' and teachers' attitudes towards online classes during COVID-19 pandemic. *International Journal of Research in Business and Social Science*, *10*(3), 462-476.doi: https://doi.org/10.20525/ijrbs.v10i3.1155

Aguilar-Cruz, P. J. & Medina, D. L. (2021). Pre-service English teachers' perception of their online teaching practice during pandemic times. *Propósitos y Representaciones, 9*(SPE1), e925. doi: http://dx.doi.org/10.20511/pyr2021.v9nSPE1.925

Ahamat, M. I. & Abdullah, A. N. (2019). Self-efficacy and language learning strategies as determinants of students' English language proficiency. International Journal of Academic *Research in Business and Social Sciences, 9*(13), 206-217. DOI: 10.6007/IJARBSS/v9-i13/6256

Akcalı, A. A. (2017). Turkish pre-service history teachers' self-efficacy beliefs and motivations on the teaching profession. *Universal Journal of Educational Research, 5*(4), 648-663. DOI: 10.13189/ujer.2017.050414

Ameen, E. C., Guffey, D. M., & Jackson, C. (2002). Evidence of teaching anxiety among accounting educators. *Journal of Education for Business, 78*(1), 16-22.

Aslan, S. (2021). Analysis of digital literacy self-efficacy levels of pre-service teachers. *International Journal of Technology in Education (IJTE), 4*(1), 57-67. https://doi.org/10.46328/ijte.47

Atar, C., Aydin, S., & Bagci, H. (2019). An investigation of pre-service English teachers' level of technopedagogical content knowledge. *Journal of Language and Linguistic Studies, 15*(3), 794-805.

Bagceci, B. & Cinkara, E. (2013). Learners' attitudes towards online language learning; and corresponding success rates. *Turkish Online Journal of Distance Education – TOJDE, 14*(2), 118-130.

Bagcı, H. & Atar, C. (2018) Pre-service English teachers' acceptance and use of social networks for learning and teaching purposes. *Kuramsal Eğitimbilim Dergis*i, UBEK-2018, 189-203.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1995). Self-efficacy: The exercise of control. New York, NY: W.H. Freeman and Company.

Basoz, T. (2016). Pre-service EFL teacher: attitudes towards language learning through social media. *Procedia – Social and Behavioral Sciences, 232*, 430-439. doi: 10.1016/j.sbspro.2016.10.059

Blundell, G. E., Castañeda, D. A., & Lee, J. (2020). A multi-institutional study of factors influencing faculty satisfaction with online teaching and learning. *Online Learning, 24*(4), 229-253.

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

Bozdogan, D. & Ozen, R. (2014). Use of ICT technologies and factors affecting pre-service ELT teachers' perceived ICT self-efficacy. *TOJET: The Turkish Online Journal of Educational Technology, 13*(2), 186-196.

Can, T., & Karacan, C. G. (2021). Exploring pre-service English teachers' early teacher identity in relation to emerging ICT technologies training. *Novitas-ROYAL (Research on Youth and Language), 15*(1), 57-75.

Caner, M. & Aydin, S. (2020). Self-efficacy beliefs of pre-service teachers on technology integration. *Turkish Online Journal of Distance Education – TOJDE*, (22), 79-94.

Cankaya, P. (2018). The exploration of the self-efficacy beliefs of English language teachers and student teachers. *Journal of Language and Linguistic Studies, 14*(3), 12-23.

Civelek, M., Toplu, I., and Uzun, L. (2021). Turkish EFL teachers' attitudes towards online instruction throughout the Covid-19 outbreak. *English Language Teaching Educational Journal, 4*(2), 87-98

Don, Y., Yaakob, M. F. M., Wan Hanafi, W. R., Yusof, M. R., Kasa, M. D., Omar-Fauzee, M. S., & In-Keeree, H. K. (2021). Challenges for using organizational climate tools for measuring teacher job satisfaction. *International Journal of Evaluation and Research in Education (IJERE), 10*(2), 465-475. doi: 10.11591/ijere.v10i2.20703

Er, B. & Karatas, N. (2021). The impact of experience on the intrinsic motivation of EFL teachers who teach online. *Technium Social Sciences Journal, 22*, 99-122.

Ersanlı, C. Y. (2016). Improving technological pedagogical content knowledge (TPACK) of pre-service English language teachers. *International Education Studies, 9*(5), 18-27. doi:10.5539/ies.v9n5p18

Gokcearslan, S., Ozcan, S., & Solmaz, E. (2016). Investigation into attitudes of pre-service teachers towards e-learning with respect to their individual innovativeness levels. *Journal of educational and instructional studies in the world, 6*(02), 31-38.

Hartley, J. (2007). Teaching, learning and new technology: A review for teachers. *British Journal of Educational Technology, 38*(1), 42–62. https://doi.org/10.1111/j.14678535.2006.00634.x

Ismail, S. A. A., & Jarrah, A. M. (2019). Exploring pre-service teachers' perceptions of their pedagogical preferences, teaching competence and motivation. *International Journal of Instruction, 12*(1), 493-510.

Javier, C. (2020). The Shift towards New Teaching Modality: Examining the Attitude and Technological Competence among Language Teachers teaching Filipino. *Asian ESP Journal, 16*(2.1), 210-244.

Kim, H. J. (2019). Exploring pre-service teachers' beliefs about English teaching competence, perceived competence, and actual competence. *Journal of Pan-Pacific Association of Applied Linguistics, 23*(2), 1-19.

Kline, R. B. (2005). Principles and practice of structural equation modeling (2nd ed.). New York: Guilford.

Lee, S.N. & Ogawa, C. (2021). Online teaching self-efficacy – How English teachers feel during the COVID-19 pandemic. *Indonesian TESOL Journal, 3*(1), 1-17.

Liza, K. & Andriyanti, E. (2020). Digital literacy scale of English pre-service teachers and their perceived readiness toward the application of digital technologies. *Journal of Education and Learning (EduLearn), 14*(1), 74-79. Doi: 10.11591/edulearn.v14i1.13925

Maden, S. (2018). Digital reading habits of pre-service Turkish language teachers. *South African Journal of Education, 38*(2), 1-12. https://doi.org/10.15700/saje.v38ns2a1641

Mahmod, A. (2019). How Technology Affects Language Learning and Teaching. *International Scientific Journals IJEISR, 3*(1), 1-7. DOI: 10.31219/osf.io/m3jx6

Manalu, B. H. (2019). Students' perception of digital texts reading: A case study at the English education department of Universitas Kristen Indonesia. *Journal of English Teaching (JET), 5*(3), 191-203. doi: http://dx.doi.org/10.33541/jet.v5i3.1312

Mateus, C. H., Gonzales, A. M. G., & Lalle, C. A. (2021). Exploring pre-service teachers' beliefs about language teaching and learning: A narrative study. *MEXTESOL Journal, 45*(1), 1-16.

Mendez Lopez, M. G. (2020). Emotions attributions of ELT pre-service teachers and their effects on teaching practice. *Profile: Issues in Teachers' Professional Development, 22*(1), 15-28. doi: https://doi.org/10.15446/profile.v22n1.78613.

Mercer, S., Oberdorfer, P., & Saleem, M. (2016). Helping language teachers to thrive: Using positive psychology to promote teachers' professional well-being. In D. Gabryś-Barker & D. Gałajda (Eds.), Positive psychology perspectives on foreign language learning and teaching (pp. 213-229). Cham, ch: Springer. https://doi.org/10.1007/978-3-319-32954-3_12.

Oguz Er, K. (2019). The relationship between teacher self-efficacy beliefs and educational beliefs of pre-service teachers. *Educational Research and Reviews, 15*(1), 8-18.

Oz, H. (2015). Assessing pre-service English as a foreign language teachers' technological pedagogical content knowledge. *International Education Studies, 8*(5), 119-130. doi:10.5539/ies.v8n5p119

Pardede, P. (2019). Print vs. digital reading comprehension in EFL. Journal of English Teaching (JET), 5(2), 77-90. DOI: http://dx.doi.org/10.33541/jet.v5i2.1059

Polyxeni, M., & Papadopoulou, M. (2013). Greek Students' Familiarity with Multimodal Texts in EFL. *The Internacional Journal of Literacies, 19*(1), 37-46.

Pratolo, B. W. & Solikhati, H. A. (2021). Investigating teachers' attitude towards digital literacy in EFL classroom. *Journal of Education and Learning (EduLearn), 15*(1), 97-103. Doi: 10.11591/edulearn.v15i1.15747

Rezaee, A., Khoshsima, H., Zare-Behtash, E., & Sarani, A. (2020). English teachers' job satisfaction: Assessing contributions of the Iranian school organizational climate in a mixed methods study. *Cogent Education, 7*(1). doi: 10.1080/2331186X.2019.1613007

Ricohermoso, C. D. R., (2021). Entering the digital classroom, leaving the physical one: Analyzing teachers' attitudes toward virtual teaching, technological competence, and willingness. *The Asian ESP Journal, 7*(1).

Rizkiani, S. (2022). Professional competency of pre-service English teachers and ICT during Covid-19 pandemic. *Acuity: Journal of English Language Pedagogy, Literature and Culture, 6*(2), 138-146. doi: 10.35974/acuity.v6i2.2462

Ryan, R. M. & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54–67 doi:10.1006/ceps.1999.1020.

Sari, H. I. & Anwar, C. (2021). English foreign language teaching anxiety of Indonesian pre-service teachers at undergraduate internship program. *Edulite Journal of English Education, Literature, and Culture, 6*(2), 222-237. DOI: http://dx.doi.org/10.30659/e.6.2.222-237

Sarıçoban, A., Tosuncuoğlu, I., & Kırmızı, O. (2019). A technological pedagogical content knowledge (TPACK) assessment of pre-service EFL teachers learning to teach English as a foreign language. *Journal of Language and Linguistic Studies, 15*(3), 1122-1138.

Soomro, K.A., Curtis, R., Kale, U., Bernstein, M., & Akaoglu, M. (2018). Development of an instrument to measure faculty's information and communication technology access (FICTA). *Educ Inf Technol (Dordr), 23*(1), 253-269. doi: 10.1007/s10639-017-9599-9.

Suganya, S. & Sankareshwari, B. (2020). Job satisfaction level on online teaching among higher secondary school teachers during Covid-19 pandemic. *Shanlax International Journal of Education, 9*(1), 138-145. doi: https://doi.org/10.34293/education.v9i1.3530

Tabachnick, B. G. & Fidell, L. S. (2007) Using Multivariate Statistics (980). Pearson.

Vandergrift, L. (2005). Relationships among motivation orientations,metacognitive awareness and proficiency in L2 listening. *Applied Linguistics, 26*, 70–89 doi:10.1093/applin/amh039

Vezne, R. (2020). Teacher candidates' satisfaction with massive open online courses in Turkey. *Cypriot Journal of Educational Science, 15*(3), 479-491.

Wang X. and Zhang W. (2021). Psychological Anxiety of College Students' Foreign Language Learning in Online Course. *Front. Psychol. 12*:598992. doi: 10.3389/fpsyg.2021.598992

Yastibas, A.E. (2021). Preparing Pre-service English Language Teachers to Teach at Unprecedented Times: The Case of Turkey. *Journal of English teaching, 7*(1), 1-14. DOI: 10.33541/jet.v7i1.2284

Zembat, R., Arslan Ciftci, H. & Duran, A. (2020). Analyzing the relationship between pre-service preschool teachers' self-leadership skills and motivation. Cypriot Journal of Educational Science. 15(1), 095-103. https://doi.org/10.18844/cjes.v15i1.3248