

Digital Transformation in Higher Education: Solutions for Improving Online Teaching Competencies of Foreign Language Lecturers

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Abstract—As rapid technological advance associated with the context of post covid-19 pandemic, digital transformation in higher education in Vietnam is considered as an inevitable trend, in which lecturers, especially lecturers' online teaching competencies play a decisive role for the success of this process. This study proposes a model of factors constituting the online teaching competencies of lecturers that affect students' satisfaction with the online teaching activities of foreign language lecturers in some public universities in Ho Chi Minh City. As the data collected from 203 students at some public universities in Ho Chi Minh city through questionnaire, then analyzed via SPSS 20 software, there're 06 factors affecting students' satisfaction with online teaching competencies of lecturers, including pedagogy skills, technological skills, design skills, content skills, management and institutional skills, and social and communication skills. Accordingly, some implications are suggested based on the research findings to enhance the online teaching competencies of foreign language lecturers in some public universities in Ho Chi Minh city.

Keywords—EFA, Foreign Language Lecturers, Implications, Multivariate Regression, Online Teaching Competencies

INTRODUCTION

Universities have recently implemented fundamental and extensive changes in teaching and learning that have had a positive impact on both teaching and learning. These changes have been made through the adoption of numerous regimes and policies, program reforms, teacher quality improvements, the promotion of new technology applications, the use of information arts, and investments in improved facilities and teaching tools.

However, as the direction of the Government in the context of the post- Covid-19 pandemic as well as the inevitable development trend of the education industry, lecturers face the challenges and new requirements in developing professional competencies, including the online teaching competencies to organize effective teaching, ensure the program, quality, and continue to strongly implement fundamental and comprehensive innovation. For lecturers teaching foreign languages at universities, this is also a great challenge due to the nature of the subject, which requires a lot of interaction. How to increase the online teaching ability for university professors who teach foreign languages is, thus, one of the problems for which practical teaching solutions are needed.

Online education is not only a fad but also the best response to the Covid-19 pandemic and its aftermath. However, these adjustments come with difficulties that lecturers may have to deal with to keep up with cutting-edge higher education models, new approaches, and innovative teaching techniques (Siemens et

al., 2012). This involves being aware of the abilities that lecturers must possess in order to do their responsibilities well (Palloff et al., 2013). The research aims to provide an overview of skills and competencies that can help lecturers in general, foreign language teaching lecturers at universities in particular to have the basis for developing the teaching competencies that meet students' learning needs.

LITERATURE REVIEW

The transformation of learning in higher education

The evolution of higher education's objectives and governing principles over time has been extensively discussed in literature. Education, like any other phenomenon in life, is influenced by its surrounding factors (Siemens & Matheos, 2010). In the educational literature, the efficiency of a teaching model or technique is constantly compared to traditional learning or teaching, which is an interesting trend. Traditional learning has been compared to emerging forms of learning, including e-learning, virtual, cyber, hybrid, and online learning, in a significant body of literature (Gaytan & Pasaro, 2009).

The reality of higher education classes, however, have had many changes. Only a very small percentage of US colleges are reported to have no online services (Allen & Seaman, 2014). Students enter the classroom with their own mobile devices in hand, connected to the Internet either through cellular data plans or the institution's Wi-Fi (Palloff & Pratt, 2013; Parker, Lenhart, & Moore, 2011). There are learning and teaching resources and materials available, including e-books, wikis, YouTube videos, and social media (Fulton, 2012). As a result, teachers use learning management systems (LMSs) as a portal for testing and grading as well as a means of uploading the syllabus (Palloff & Pratt, 2013). Access to the Internet is required for both the teacher and the students in what is known as the traditional classroom. And this is indeed taking place in numerous Vietnamese institutions.

Online teaching competencies and students' satisfaction

In the literature, the competencies for online training have been categorized at various levels and using various methods. Salmon (2003) divided the characteristics of an online lecturers into five categories: (a) understanding the online process, (b) technical skills, (c) online communication skills, (d) content expertise, and (e) personal characteristics.

The competencies established in ISTE's (2001) standards for technology facilitation that help technology facilitators carry out their jobs. The following competency categories are included in this list: (a) technology operations and concepts; (b) planning and designing learning environments and experiences; (c) teaching, learning, and curriculum development; (d) assessment and evaluation; (e) productivity and professional practice; (f) social, ethical, legal, and human issues; (g) procedures, policies, planning, and budgeting for technology environments; and (h) leadership and vision. These guidelines have been widely used in a variety of online studies and projects.

In addition to a set of abilities linked to the content, design, communication, and management, some researchers also briefly list online competencies as personal, social, pedagogical, and technological (Baran & Correia, 2014; Guasch, Alvarez, & Espasa, 2010; Palloff & Pratt, 2011; Smith, 2008). The eight competency categories developed by Dubins and Graham (2009) after analyzing 17 online learning programs are (a) content management system (CMS) skills, (b) other technical skills, (c) instructional design, (d) social processes and presence, (e) managing assessment, (f) orienting students, (g) institutional knowledge, and (h) pedagogy and andragogy.

In 2008, Certificate for Online Adjunct Teaching [COAT], a professional development project for online professors, created by Maryland Online (MOL) developed scales measuring online teaching competencies including (a) orienting students to online learning, (b) technology skills, (c) LMS skills, (d) basic instructional design principles, (e) pedagogy and andragogy, (f) social process and presence, (g) Internet safety for k-12; (h) managing assessment, and (i) legal and institution-specific policy and procedure (MOL, 2014). This program has been implemented by a number of universities other than Maryland to train their teaching staff for online instruction.

Studies have given increased attention to pedagogy, technology, design, content, management, institutional, communication, and social issues. Additionally, it appears that managerial, social, and institutional competences are interchangeably employed with communication and institutional

competencies to imply a resemblance in competencies. This outcome is in line with Koehler and colleagues' Technological Pedagogical Content Knowledge (TPACK) framework. TPACK is a developed form of Lee Shulman's pedagogical content knowledge. According to TPACK, teachers who have a body of knowledge that is the consequence of a complex interplay between their knowledge of content, pedagogy, and technology are more effective at teaching with technology (Koehler, Mishra, & Cain, 2013).

Online teaching skills are therefore listed in this study as tasks or performance statements that fall within one of these six categories, including pedagogy, technology, design, content, management and institutional, and social and communication.

Due to advances and changes, professors in higher education struggle to manage technologically advanced classrooms and the problems that come with them (Palloff & Pratt, 2013). In fact, some of the issues that might deter faculty members from switching to online teaching include how to meet discipline-related demands, what kind of training they would need, how to be successful online instructors, how to assess and evaluate learning outcomes, and how to deal with stress and feelings of frustration while creating assignments (Alman & Tomer, 2012; Palloff & Pratt, 2013). Therefore, online professors require a framework and guidelines that will support them, help them develop their talents, and aid in the creation of adequate training courses (Munoz-Carril, Gonzalez-Sanmamed & Hernandez-Selles, 2013).

All these skills, tasks, and competencies can help in designing and creating professional development opportunities for online educators. Needs assessment analysis tools and instruments may be built based on these qualities to determine professional development goals and procedures (Baran & Correia, 2014). Online instructors can also use these to self-evaluate their competencies and then recognize their own learning and training needs as adult, self-regulated, and self-determined learners (Baran et al., 2013). Finally, competencies can serve as a protocol to ensure instructors' readiness and qualification to teach in online learning.

For student's satisfaction, it is the perception of service attainment in positive ways (Oliver, 1980). Lecturer competency significantly contributes towards student satisfaction and character development, which contribute to a positive word of mouth marketing for the institution (Latip et al., 2019). Lecturers' competencies, therefore, are a crucial factor in determining how satisfied students are (Wong et al., 2014). In fact, teaching ability and subject expertise of lecturers are the two most crucial factors that affect student satisfaction (Douglas et al., 2006). Students also show their expectation for the professors to be knowledgeable on both the intellectual and practical components of the course. Together with pedagogical knowledge, motivation and excitement for teaching help lecturers choose the best way to present a lesson in class and ensure that all students grasp it (Kunter et al., 2013). As a result, students will be satisfied (Kashif & Ting, 2014).

Theoretical frameworks and hypotheses

A lot of researches were conducted on the online teaching competencies of lecturers to meet students' satisfaction, named as studies of ISTE (2001), Salmon (2003), Smith (2008), Dubins and Graham (2009), Guasch et al. (2010), Abdous (2011). However, in view of Fatimah A Albrahim (2020), online teaching skills are simplified and divided into groups of 06 skills, including pedagogical skills, technological skills, design skills, content skills, management and institutional skills, social and communication skills. Therefore, the author adopted the model of Fatimah A Albrahim (2000) in this study as proposed research model. As referring above mentioned models and qualitative research results, the authors defined 06 independent scales affecting dependent one, the students' satisfaction with online teaching competencies of foreign language teaching lecturers in some public universities in Ho Chi Minh city.

Pedagogical Skills: Effective online instructors should understand the fundamentals of online teaching and pedagogy. They must demonstrate this understanding through applying a large number of principles and strategies so that students can easily understand the lessons and feel interested in the activities organized by the lecturers in the online classes. The relationship between pedagogical skills and students' satisfaction with online teaching competencies of foreign language lecturers

was proved in the research of Abdous (2011); Bailey & Card (2009); Bailie (2011); Bawane & Spector (2009); Craddock & Gunzelman, (2013); Munoz Carril et al. (2013).

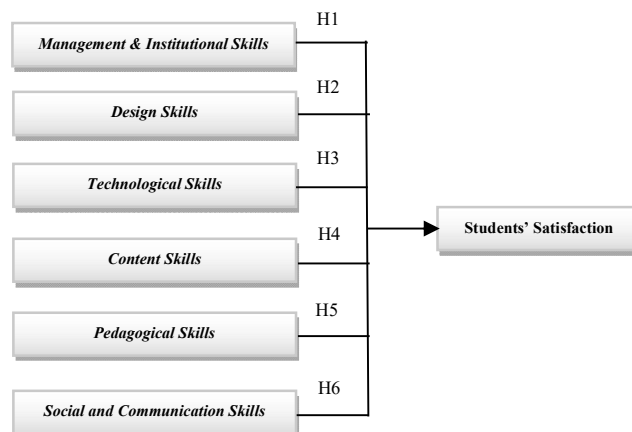
Content Skills: Online instructors must be able to master extensive knowledge of the content as well as state learning goals and objectives that coincide with learners' levels and characteristics. Although the foreign language lecturers have to teach the content as the syllabus, they can help students widen their knowledge related to the topic through introducing to students varied learning resources as well as link the subject to the reality, so that students can be more engaged in foreign language lecturers' online teaching. Considering the relationship between content skills and students' satisfaction with online teaching competencies of foreign language lecturers, it was identified in the study of Abdous (2011); Bailie (2011); Bailey & Card (2009); Bawane & Spector (2009); Munoz Carril et al. (2013), etc.

Design Skills: Designing and developing online courses is a demanding task. It requires having a design and production team, which consists of an instructional designer, instructional technologist, graphic and media designers and production team, and librarians (Abdous, 2011). These individuals work collaboratively to produce high-quality online courses (Haughton, Sandt, & Slantcheva-Durst, 2014). Learners may feel the teaching activities more awesome if the lessons are designed more eye-catching, logical. The relationship between students' satisfaction with online teaching competencies of foreign language lecturers and design skills was previously identified in many researches named as Abdous (2011); Bawane & Spector (2009); Munoz Carril et al. (2013); Newby, Eagleson, & Pfander (2014)

Technological Skills: Although online learning relies heavily on technology, there is no imperative need for online instructors to be technologically advanced. Online instructors have to possess adequate technological literacy skills to be able to flexibly apply various technological resources and tools, software, applications to make the online class funnier and more attractive. The technological skills have been proved to affect students' satisfaction with online teaching competencies of foreign language lecturers in studies of Abdous (2011); Bawane & Spector (2009); Munoz Carril et al. (2013); Alman & Tomer (2012), Bailey & Card, (2009).

Management and Institutional Skills: As classroom management is an important aspect of face-to-face education, managing courses and learning is essential in online learning environments. An awareness of institutional policies and norms is also an important aspect of being a successful online instructor. This factor was adopted from many previous studies like Bailie (2011); Bawane & Spector (2009); Craddock & Gunzelman (2013); Munoz Carril et al. (2013).

Social and Communication Skills: Active communication and social presence are vital to engaging online learners. Using different communication tools (e.g., email, video chat, text messages, etc.), online instructors have to efficiently communicate and promote interactivity among the learners. This relationship was mentioned in the studies of Abdous (2011); Bailie, (2011); Bawane & Spector (2009); Craddock & Gunzelman (2013); Fuller & Yu (2014); Munoz Carril et al. (2013).



Justification of Research Model.

Research hypothesis are as follows:

Hypothesis H1: Management & Institutional skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

Hypothesis H2: Design skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

Hypothesis H3: Technological skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

Hypothesis H4: Content skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

Hypothesis H5: Pedagogical skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

Hypothesis H6: Social and communication skills have a positive effect on the students’ satisfaction with online teaching competencies of foreign language lecturers.

There’re 28 variables of the measurement scale in the official proposal research model shown in the Table I below:

TABLE I
CODES OF SCALES AND VARIABLES OF RESEARCH MODEL

Code		Variables	
Management and Institutional Skills (QLTC)	1	QLTC1	Managing the course time and applying time-saving techniques
	2	QLTC2	Demonstrating leadership, management, mentoring, and coaching skills, as well as knowledge of administrative qualities and procedures
	3	QLTC3	Tracking course and students’ progress on a regular basis
	4	QLTC4	Establishing and declaring rules and regulations for participation, submission of assignments, timeliness, sending and seeking feedback, and communication protocols
	5	QLTC5	Complying with legal, ethical, and copyright issues and standards
Design Skills (TK)	6	TK1	Understanding and applying instructional design principles, models, and theories
	7	TK2	Organizing and presenting the learning materials in different formats
	8	TK3	Cooperating with the production team to design learning activities and select appropriate tools and techniques to present these activities
	9	TK4	Using students’ previous feedback to develop and design new courses and assess the course design quality by using quality assurance tools and instruments
	10	TK5	Understanding and applying instructional design principles, models, and theories
Technological Skills (CN)	11	CN1	Accessing various technological resources and tools, such as email, Internet browsers, text and video chat applications, software and applications
	12	CN2	Understanding the learning and teaching capabilities and limitations of these tools
	13	CN3	Being aware of the technical potential of, and procedures used to create, e-content, such as e- books and instructional videos
	14	CN4	Using learning management systems to implement activities
	15	CN5	Being alert to the latest updates and renovations of educational technology and software
Content Skills (ND)	16	ND1	Expressing and mastering extensive knowledge of the content
	17	ND2	Stating learning goals and objectives that coincide with learners’ levels and characteristics

Code			Variables
	18	ND3	Developing and selecting appropriate and varied learning resources that accommodate different learning styles and preferences
	19	ND4	Linking the subject and content with scientific, social, cultural, and any other relevant phenomena
Pedagogical Skills (SP)	20	SP1	Learning theories, such as learning styles, the adult learning theory, the learner-centered approach, and collaborative learning
	21	SP2	Designing and implementing appropriate instructional strategies, as well as classroom assessment and student engagement techniques
	22	SP3	Organizing and facilitating students' participation and providing guidance and support as needed
	23	SP4	Using criterion-based assessment to evaluate individual and group performance
	24	SP5	Motivating students and showing enthusiasm, interest
Social and Communication Skills (GTXH)	25	GTXH1	Facilitating and maintaining interactive discussion and information exchange
	26	GTXH2	Ensuring the quality and accuracy of written messages and feedback; detecting typographical and grammatical errors
	27	GTXH3	Using different communication methods to ensure accessibility among the instructor and learners, and the learners with their peers
	28	GTXH4	Clarifying the purpose and meaning of messages and feedback; offering advices, suggestions and clarifying doubts and suspicions.
Students' satisfaction	29	HL1	I am satisfied with my foreign language lecturer's knowledge related to online teaching
	30	HL2	I am satisfied with my foreign language lecturer's experience of online teaching.
	31	HL3	I feel motivated to attend my foreign language lecturer's online classes
	32	HL4	I am excited with the online classes of my foreign language lecturer.

RESEARCH METHODS

Two research methods are applied in this study:

Qualitative research method:

Direct discussion technique was adopted with 5 deans and vice-deans of foreign languages faculties/centers of some public universities in Ho Chi Minh city based on a designed outline to explore, adjust, and supplement measurement scale and variables.

Quantitative research method:

Includes 2 stages:

(1) Pilot research: The data used in this study were collected from 50 students with convenient sampling method, then tested Cronbach's Alpha and EFA to preliminarily evaluate scales and variables. Besides, pilot research is applied to adjust words and content to make the questionnaire easy to understand by omitting misunderstanding or heterogeneity of understanding among participants. Cronbach's Alpha Test is applied for the purpose of removing inappropriate scales and variables. The inspection standards were determined (1) the scales are excluded from the research model if Cronbach's Alpha coefficient is less than 0.6; (2) The variables are removed from the scale if the Corrected Item-Total Correlation is less than 0.3.

(2) Official quantitative research: SPSS 20 was used to analyze the data collected from 203 students of some public universities in Ho Chi Minh city to identify the factors really affecting their satisfaction toward online teaching and their impact level as well. Then, the implications were suggested to improve the students' satisfaction with online teaching activities of lecturers.

Sample size and structure:

As Hoang Trong & Chu Nguyen Mong Ngoc (2008) recommended that the sample size could be minimum of 100 with the ratio of 5:1 (which means each variable of independent scale requires for 5 participants). Thus, with 28 variables of 6 independent scales, the minimum sample size is 140 (28*5). However, to increase the accuracy and anticipation of invalid answers, the sample size was determined of 215 students with the non-probability and convenience sampling method.

There're 203 valid answered questionnaires collected over 215 distributed ones, accounting for 94%. As gender structure, female accounted for 48%, and male of 52%. As studying time at school, freshman accounted for 40.9%, sophomore is about 19.7%; junior made up 24.6%, and senior accounted for 14.8%.

RESULTS AND DISCUSSION**Testing Cronbach's Alpha of independent scale and dependent scale**

Six independent scales are applied Cronbach's Alpha for one time. For the first time, all the independent scales received the Cronbach's Alpha which are greater than 0.6; hence, all variables are accepted. The result of testing Cronbach's Alpha of 6 independent scales are as follows:

TABLE II

THE RESULT OF TESTING CRONBACH'S ALPHA OF 6 INDEPENDENT SCALES

Variables (Code)	Corrected Item-Total Correlation	Cronbach's Alpha If Item deleted
Management and Institutional Skills (QLTC) - Cronbach's Alpha = 0.826		
QLTC1	.686	.783
QLTC2	.552	.811
QLTC3	.656	.781
QLTC4	.611	.794
QLTC5	.647	.784
Technological Skills (CN) – Cronbach's Alpha = 0.819		
CN1	.588	.795
CN2	.570	.796
CN3	.647	.773
CN4	.608	.785
CN5	.660	.770
Design Skills (TK) – Cronbach's Alpha = 0.827		
TK1	.626	.792
TK2	.593	.802
TK3	.611	.797
TK4	.665	.784
TK5	.636	.790
Social and Communication Skills (GTXH) – Cronbach's Alpha = 0.765		
GTXH1	.554	.715
GTXH2	.613	.683
GTXH3	.631	.672

GTXH4	.466	.760
Pedagogical Skills (SP) – Cronbach’s Alpha = 0.747		
SP1	.459	.724
SP2	.584	.680
SP3	.564	.688
SP4	.503	.707
SP5	.476	.717
Content Skills (ND) – Cronbach’s Alpha = 0.814		
ND1	.619	.773
ND2	.656	.758
ND3	.636	.766
ND4	.631	.769

For the first time, all the variables of dependent scale received the Cronbach's Alpha which are greater than 0.6; hence, all variables are accepted. The result of testing Cronbach's Alpha of 6 independent scales are as follows:

TABLE III
THE RESULTS OF TESTING CRONBACH’S ALPHA OF DEPENDENT SCALE

Variables	Corrected Item- Total Correlation	Cronbach’s Alpha If Item deleted	Cronbach's Alpha
HL1	.682	.765	0.825
HL2	.640	.783	
HL3	.653	.778	
HL4	.624	.791	

Exploratory Factor Analysis (EFA)

The purpose of Exploratory Factor Analysis is to remove variables with factor loading of less than 0.5, and variables not belonging to any factor.

Exploratory Factor Analysis of independent scale: The EFA was conducted for the first time for the independent scales, and the results are as follows:

TABLE IV
THE RESULT OF EXPLORATORY FACTOR ANALYSIS OF 6 INDEPENDENT SCALES

Independent scales	Code	Components					
		X1	X2	X3	X4	X5	X6
Management and Institutional Skills	QLTC5	.776					
	QLTC3	.761					
	QLTC1	.735					
	QLTC4	.680					
	QLTC2	.653					
Design Skills	TK4		.751				
	TK3		.728				
	TK5		.721				
	TK2		.708				
	TK1		.707				
Technological Skills	CN2			.754			
	CN5			.740			

Independent scales	Code	Components					
		X1	X2	X3	X4	X5	X6
	CN4			.723			
	CN3			.674			
	CN1			.666			
	ND2				.803		
Content Skills	ND3				.789		
	ND1				.765		
	ND4				.741		
	SP2					.705	
Pedagogical Skills	SP3					.696	
	SP4					.687	
	SP5					.679	
	SP1					.535	
	Social and Communication Skills	GTXH3					
GTXH2							.697
GTXH4							.669
GTXH1							.628
Eigenvalue		1.232					
Average Variance Extracted (%)		59.759					
Sig.		.000					
KMO		.870					

As shown in the above Table IV, KMO is 0.870 which is greater than 0.5. It indicates the suitability of EFA and practical data. Bartlett test result with sig = 0.000 which is less than 0.05 demonstrates that the variables are correlated as a whole.

Eigenvalue = 1.232 > 1 of the Principal Components method, 6 factors are extracted from 28 variables.

Average Variance Extracted = 59.759% > 50%, which demonstrates that 59.759% Variation of data could be explained by 06 factors as presented in the above table.

Exploratory Factor Analysis of independent scale: The EFA was conducted for the first time for the dependent scale, and the result is as follows:

TABLE V
THE RESULT OF EXPLORATORY FACTOR ANALYSIS OF DEPENDENT SCALE

No.	Dependent (Y)	Students' satisfaction
1	HL1	.833
2	HL3	.812
3	HL2	.804
4	HL4	.790
Eigenvalue		2.625
Average Variance Extracted (%)		65.614
Sig		.000
KMO		.805

As shown in Table V above, KMO is 0.805 which is greater than 0.5. It indicates the suitability of EFA and practical data. Bartlett test result with sig = 0.000 which is less than 0.05 demonstrates that the variables are correlated.

Eigenvalue = 2.625 > 1 of the Principal Components method, 1 factor is extracted from 4 variables.

Average Variance Extracted = 65.614% > 50%, which demonstrates that 65.614% Variation of data could be explained by 1 factor as presented in the above table.

In summary, after conducting Exploratory Factor Analysis, 6 independent scales with 28 variables are extracted into 6 factors with 28 variables. There's no variable rejected. One dependent scale is extracted from 4 variables.

Pearson Correlations analysis

The result of Pearson Correlations analysis is as follows:

TABLE VI
THE RESULT OF PEARSON CORRELATIONS ANALYSIS

		HL	QLT C	CN	ND	SP	GTX H	TK
HL	Pearson Correlation	1	.588* *	.567** *	.384* *	.632** *	.540* *	.545** *
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	203	203	203	203	203	203	203
CV	Pearson Correlation	.588** *	1	.410** *	.188* *	.374** *	.327* *	.386** *
	Sig. (2-tailed)	.000		.000	.007	.000	.000	.000
	N	203	203	203	203	203	203	203
CN	Pearson Correlation	.567** *	.410* *	1	.264* *	.379** *	.444* *	.204** *
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.003
	N	203	203	203	203	203	203	203
ND	Pearson Correlation	.384** *	.188* *	.264** *	1	.273** *	.347* *	.307** *
	Sig. (2-tailed)	.000	.007	.000		.000	.000	.000
	N	203	203	203	203	203	203	203
SP	Pearson Correlation	.632** *	.374* *	.379** *	.273* *	1	.384* *	.389** *
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	203	203	203	203	203	203	203
GT XH	Pearson Correlation	.540** *	.327* *	.444** *	.347* *	.384** *	1	.459** *
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	203	203	203	203	203	203	203
TK	Pearson Correlation	.545** *	.386* *	.204** *	.307* *	.389** *	.459* *	1
	Sig. (2-tailed)	.000	.000	.003	.000	.000	.000	
	N	203	203	203	203	203	203	203

** . Correlation is significant at the 0.01 level (2-tailed).

As shown in Table VI, all Pearson correlation sig values between the independent variables and the dependent variable are less than 0.05. The correlation coefficients between the X1, X3, X4, X5, X6, X2 with the dependent scales Y are 0.558, 0.567, 0.384, 0.632, 0.540, 0.545 respectively. Sig values

are equal to 0.000, less than 0.005, which is eligible to apply regression analysis. Thus, all the independent factors are all linearly correlated with the dependent factor, in which Pedagogical Skills (X4) is the factor that have the strongest correlation with Y.

Multiple regression analysis

TABLE VII
COEFFICIENTS

Model	Unstandardized Coefficients	Standardized Coefficients	Sig.	Collinearity Statistics
	B	Beta		VIF
Constant	0.48		.795	
Management and Institutional Skills (QLTC)	.196	.245	.000	1.395
Technological Skills (CN)	.200	.235	.000	1.470
Content Skills (ND)	.079	.091	.042	1.205
Pedagogical Skills (SP)	.269	.303	.000	1.396
Social and Communication Skills (GTXH)	.102	.114	.027	1.584
Design Skills (TK)	.161	.204	.000	1.490
R		.823		
R ²		.677		
Adjusted R ²		.667		
Sig. (F = 68,363)		.000		
Durbin-Waston		1.735		
Sig. (Regression)		.000		

As Table VII, it illustrates the high appropriacy of the model with $R = 0.823$, $R^2 = 0.677$ and $Adjusted R^2 = 0.667$, which demonstrate that 66.7% of students’ satisfaction can be explained by 06 independent factors.

After multiple regression analysis, there are 06 factors accepted with Sig values of less than 0.05 and are positively correlated with the dependent factor “Students’ satisfaction”. This indicates that there are 06 factors really affecting the students’ satisfaction with online teaching competencies of foreign language lecturers.

As presented in Table VII, six independent factors received the $VIF < 10$ (from 1.205 to 1.584), which indicates that there’s no multicollinearity in the regression model. The Durbin-Waston value is 1.735, which satisfies the condition of $0 < 1.735 < 3$. Hence, it could be inferred that there’s no autocorrelation of residuals in the research model.

The regression equation with standardized coefficients is presented as below:

$$HL = 0.245*QLTC + 0.235*CN + 0.091*ND + 0.303*SP + 0.104*GTXH + 0.204*TK$$

In other words, Student’s satisfaction = 0.245* Management and Institutional Skills + 0.235* Technological Skills + 0.091* Content Skills + 0.303* Pedagogical Skills + 0.114* Social and Communication Skills + 0.204* Design Skills

As the regression result, Pedagogical Skills - SP ($\beta = 0.303$) has the strongest effect on students’ satisfaction; Management and Institutional Skills - QLTC ($\beta = 0.245$) has the second strongest effect on students’ satisfaction; Technological Skills - CN ($\beta = 0.235$), Design Skills -ND ($\beta = 0.204$), and Social and Communication Skills - GTXH ($\beta = 0.104$) were ranked respectively third, fourth, and fifth position. The factor with the least effect on students’ satisfaction with online teaching activities of lecturers was Content Skills ($\beta = 0.091$)

The impact level of each factor on the students’ satisfaction with online teaching activities of lecturers is as follows:

TABLE VIII
THE RELATIVE INFLUENCE OF INDEPENDENT FACTORS ON DEPENDENT FACTOR

Oder	Independent factors	Beta	Percent (%)	Rank
1	SP	.303	25.419%	1
2	QLTC	.245	20.554%	2
3	CN	.235	19.715%	3
4	TK	.204	17.114%	4
5	GTXH	.114	9.564%	5
6	ND	.091	7.634%	6

Therefore, regression results determine that 06 hypotheses of the research model are accepted.

IMPLICATIONS AND CONCLUSION

Implication

Based on the research findings, some implications are suggested as follows to enhance the online teaching competencies of foreign language teaching lecturers.

Pedagogical skills: Lecturers should explore more about learning theories, such as learning styles, the adult learning theory, the learner-centered approach, and collaborative learning. Besides, some designing and implementing appropriate instructional strategies, as well as classroom assessment and student engagement techniques should be adopted in online class. Lecturers are encouraged to organize and facilitate students' participation and providing guidance and support as needed; Using criterion-based assessment to evaluate individual and group performance is considered as a solution. Furthermore, lecturers should motivate students and show enthusiasm and interest in online class. Encouraging knowledge construction based upon learners' prior knowledge and life experience is the appropriate choice in this situation as well as fostering learners' self-assessment and reflection; and promoting group interaction, collaboration, and teamwork.

Content Skills: Lecturers are advised to demonstrate and possess in-depth subject knowledge while leading online classes. However, it is equally essential to state learning goals and objectives that match learners' abilities and traits as well as to plan and create learning and evaluation activities that do the same. The creation and selection of relevant and varied learning resources that take into account various learning preferences and styles are taken into consideration as a viable option to increase student satisfaction. Linking the topic and content to scientific, social, cultural, and any other relevant phenomena; creating an inventory of the current content and resources as well as any additional content and resources will be required in addition to the aforementioned solutions.

Design Skills: An instructional designer, instructional technologist, visual and media designers and production team, and librarians are all necessary members of the design and production team to create a design which is not only eye-catching but also suitable to the pedagogical purposes. These people should collaborate to create excellent online courses. Hence, understanding and using the ideas, models, and concepts of instructional design, lecturers should receive training on how to arrange and deliver the course contents in various formats. To achieve this, universities should provide foreign language lecturers with training course on design online teaching materials. It is necessary to collaborate with the production team while creating learning activities and choosing the right tools and methods to deliver them in a way that meets learning objectives. Additionally, developing and designing new courses based on prior student feedback, as well as evaluating the course design's quality utilizing tools and instruments for quality assurance.

Technological Skills: Although technology is frequently used in online learning, it is not necessary for online educators to be highly skilled in it. To access different technology resources and tools, including as email, Internet browsers, LMSs, chat programs, productivity software and applications, online educators must have a sufficient level of technological literacy. It's important to be aware of the technical potential and processes utilized to create e-content as well as the learning and teaching

capabilities and limitations of these tools. Additionally, lecturers need to be aware of the most recent upgrades and modifications to software and instructional technology.

Management and Institutional Skills: In online learning contexts, managing courses and learning is crucial, just as it is in traditional classroom settings. Being an effective online educator also requires having a solid understanding of institutional standards and expectations. Lecturers should receive training in time management skills, time-saving methods, management, mentoring, and coaching approaches, administrative skills, and regular progress monitoring of both the course and the students. Additionally, rules and guidelines for participation, assignment submission, punctuality, sending and receiving feedback, and communication protocols should be established and declared from the start of the online classes. Lecturers should do research on classroom instruction before analyzing and incorporating the findings.

Social and Communication Skills: To keep online learners interested, active contact and social presence are essential. Online teachers need to effectively engage with the students and encourage interaction through a variety of communication technologies (such as email, video chat, text messages, etc.). The following are some actions to take in order to accomplish this: fostering and sustaining interactive dialogue and information sharing; employing adequate and comprehensible language; and respecting and taking into account cultural diversity. Additionally, instructors of foreign languages should ask inquiries and plainly request information. Using font effects and colors to emphasize key ideas should be mentioned in online courses. It is important to think about how to check written communications and feedback for accuracy and quality as well as how to look for typographical and grammatical mistakes. Additionally, where possible, personalize messages and feedback with appropriate sense of humor to make them more engaging. To enhance accessibility among the students, lecturers are urged to employ a variety of communication techniques. Additionally, the online class should be welcoming and kind. Last but not least, it's important to foster a sense of community among the students, build respectful relationships among them, and communicate online with tact and empathy. When necessary, lecturers should clarify uncertainties and misunderstandings, offer guidance and suggestions, and mediate disputes and misunderstandings respectfully.

Conclusion

Universities are currently working to construct and perfect all areas to best serve teaching and learning, enhance training quality, affirm the brand, and engage students in the context of autonomy and harsh competition as well, which is in line with the overall competitive trend. It is essential and inevitable that higher education in Vietnam undergoes a digital transition. As a result, the online teaching option is the best one in the new context, and even for the post-covid 19 pandemics. Teaching online is obviously challenging. Due to the numerous tasks and obligations of teaching online, academic faculties may feel uneasy to conduct these tasks. Hence, to assist in creating professional development programs for online educators, it is necessary to identify the skills and abilities required for online teaching. Six categories have been established to form these competencies, including (a) educational skills, (b) content skills, (c) design skills, (d) technological skills, (e) management and institutional skills, and (f) social and communication skills. These skill sets can be used by online instructors to assess their own readiness to teach online and pinpoint any gaps in their knowledge.

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