Research Article

Received: 21 May 2023 / Accepted: 29 July 2023 / Published: 5 September 2023

Factors Affecting Adaptability of Teachers in Teaching at the University of Social Sciences and Humanities, Vietnam National University Ho Chi Minh City Under the Covid – 19 Pandemic

Nguyen Thi Thuy Duyen[1]

Tran Thi Ngoc Nho[1*]

Pham Thi Loan[1]

Pham Thi Thuy Trang[1]

Nguyen Dinh Toan[1]

Doan Xuan Toan[1]

Hoang Thi Xuan Hang[1]

[1]University of Social Sciences and Humanities,
Vietnam National University, Ho Chi Minh City,
10-12 Dinh Tien Hoang, Ben Nghe Ward,
District 1, Ho Chi Minh City,
Vietnam
**Corresponding Author*

DOI: https://doi.org/10.36941/jesr-2023-0134

Abstract

This study is to clarify the factors affecting the adaptability in the teaching of lecturers at the University of Social Sciences and Humanities (VNU-HCM) due to the impact of the Covid-19 epidemic. From the general theoretical basis: concepts, theory of adaptability, characteristics of lecturers, and characteristics of adaptability in teaching, the research identified, and analyzed factors affecting the adaptability in the teaching of lecturers include: (1) Psychology; (2) Attitude; (3) Technology; (4) University Support; (5) Students' participation; and (6) CCognitivefactor. Accordingly, six hypotheses are built based on the research model. The study used quantity active research methods and conducted cited surveys with 222 lecturers of VNU-HCM using online and face-to-face questionnaires. Collected data were processed by SPSS20 software. After checking the reliability of the scale by Cronbach's Alpha and analyzing the EFA factor, the remaining four hypotheses were tested and achieved high reliability (in which the factors of Student participation and Cognition were disqualified due to failure to meet Cronbach's Alpha criteria). The results of multivariate regression analysis have identified three facto which three factors include (1) Attitude; (2) Technology;(3) University Support have a positive impact on the adaptability in the teaching of teachers. From the research results, the study proposes solutions to improve the adaptability in the teaching of -HCM in the changing conditions caused by the epidemic in particular and changes in the teaching methods in general.

Keywords: *Attitude, Technology, University Support, Covid-19 pandemic, Lecturers' adaptability*

1. Introduction

The Covid-19 Pandemic started in December 2019 in Wuhan City, China, and has continued to spread around the world since 2020. As of May 20, 2021, the world recorded nearly 166 million cases of virus infection and more than 3 million deaths (Ministry of Health, 2021). Although some countries have been able to effectively treat infections, in many countries new outbreaks have not stopped appearing. In countries affected by severe epidemics like the US, the number of infecinfectionsve exceeded 33 million, including 593,419 deaths (Wikipedia, 2021). Asia became the region with the most infections in the world (47,900,116 cases). With 46,304,215 cases, Europe was the second most affected region. Followed by North America with 39,324,030 cases and South America with 27,164,981 cases. Africa (4,757,201 cases) and Oceania (66,599 cases) were the two least affected regions. In Southeast Asia, only a day recorded 19,521 cases, of which: Malaysia increased 6,075 cases, Indonesia increased 4,871 cases, the Philippines increased 4,700 cases, Thailand increased 3,394 cases, Cambodia increased 393 cases, Laos increased 50 cases, and Singapore increased 38 cases. Currently, according to the Ministry of Health, the world has 227,923,887 infections and 4,686,061 deaths. In Vietnam, there were 667,650 infections and 16,637 deaths (Ministry of Health, 2021). As of February 9, 2023, in Vietnam, there were 11,526,566 Covid-19 infections, with 43,186 deaths. Worldwide, there were 649,799,405 infections, 6,646,043 deaths (Ministry of Health, 2023). In Vietnam, there were 4,378 infections and 37 deaths, 164,265,954 and 3,404,151 deaths as of April 2021 (Ministry of Health, 2021). During the 9 months of 2021, the Covid-19 pandemic had a very negative impact on Vietnam when the Southeast provinces, the Mekong Delta and, Hanoi had to implement social distancing according to Directive 16 for a long period.

Almost all activities have had to be stopped or postponed, people were forced to keep their distance from epidemic control activities, including schools and universities. In this situation, each school or university must have had different ways of reacting to adapt to the unexpected context, in some cases actively closing, in some cases waiting for instructions from the government by switching to online teaching and learning.

The impact of the global COVID-19 pandemic affecting Vietnamese universities has led to an increased need and urgency for the value of related e-learning and technology-based education methods (Pham & Ho, 2020). In the ability to adapt to the new context, lecturers must learn to adapt psychologically and emotionally to non-traditional forms of teaching (Phạm & Phan, 2021). The University of Social Sciences and Humanities, Vietnam National University Ho Chi Minh City also chose this option to adapt to this changing context.

2. Literature Review

Previous related research works have focused on analyzing many different factors affecting adaptability in teaching, including many factors ranging from cognitive, attitude factors (Aperribai L., Cortabarria, Aguirre, Verche, & Borges, 2020; Sahu, 2020; Özkaral & Bozyiğit, 2020; Mwale & Chita, 2020) to external objective factors such as the support of physical and mental facilities of the educational and training unit. (Nambiar, 2020; Singh, Phirriyalatha, & Suresh, 2020). The research objective of the article is to clarify the factors affecting the adaptability of lecturers in teaching at The University of Social Sciences and Humanities, Vietnam National University of Ho Chi Minh City (USSH, VNU – HCM) due to the impact of the Covid-19 epidemic using exploratory factor analysis to find out the influence of variables on the adaptability of lecturers. From the analysis of the general theoretical basis, this paper identified, analyzed, and considered factors affecting the adaptability in the teaching of lecturers, including (1) Psychology; (2) Attitude; (3) Technology; (4) University Support; (5) Students' participation; (6) Cognition.

2.1 The adaptability of lecturers in teaching from previous related studies.

According to Martin A. J., Nejad, Colmar, and Liem, the concept of adaptation is the ability of individuals to cope with new changes and uncertainties through the adjustment of mental behavioral mechanisms (Martin A. J., Nejad, Colmar, & Liem, 2012). Going deeper into adaptability can be broken down into three aspects, namely behavioral adjustment, emotional adaptation, and attitude change (Collie, Granziera, & Martin, 2018). The concept of adaptation measures teachers' perseverance when negative situations arise as well as their ability to overcome difficult challenges and focus on solving unforeseen situations (Ma, Chutiyami, Zhang, & Nicoll, 2021).

The Covid-19 Pandemic has seriously affected humanity as well as all aspects of social life, from economy, politics, culture, science, health, and education to spirit and habits, and human ways of life. It also caused many research projects on the impact of the Covid-19 epidemic diversely mushrooming in various fields. For education, studies related to this, which were different levels and scopes, have shown interest in its impacts on this activity. Studies revolved around the factors affecting the lecturer's adaptability in teaching.

2.2 Psychological and cognitive factors.

Regarding the adaptability of university lecturers in the context of the Covid-19 Pandemic, Sahu (2020) carried out research on the potential impact of the Covid-19 Pandemic outbreak on the education and mental health of students and teaching staff. The article used the method of synthesizing and analyzing available data to show the effects and changes in the teaching process under the impact of the Covid – 19 Pandemic, in which the article focused on the mental health of students and lecturers in a state of uncertainty, insecurity, and danger of infection, thereby preventing the situation that universities have to switch from traditional teaching to online teaching (Sahu, 2020).

In the same concern, Aperribai, Cortabarria, Aguirre, Verche, & Borges (2020) conducted another study, interested in more detail on the adaptability after universities closed, therefore, all teaching activities must be moved to the online alternative. By doing so, lectures would work from home more than going to university, as well as all activities, especially physical activities, would be confined inside the house (indoors) instead of going out (outdoors). The study focused on analyzing three main factors that the Covid-19 pandemic directly affected including work, family, and social relationships, thereby finding out the way the physical activities affected these three factors. Research surveyed 345 teachers who were teaching at Spanish high schools. The results showed that physical activities in the home had a preventive effect on health in the case of home isolation, so it was necessary to increase physical activities to create good health for teachers during this period of working from home. On the other hand, the study also suggested the facilitation of teaching activities due to the pressure from online teaching as well as learning to adapt to completely new ways of using technology and teaching activities. That also affected family relationships (less time spent with family due to the overload of online teaching time) (Aperribai L., Cortabarria, Aguirre, Verche, & Borges, 2020).

The psychological adaptability of lecturers in the context of the Covid - 19 Pandemic was also a concern by Petrakova, Kanonire, Kulikova, & Orel (2021), which focused on learning about the stress characteristics of lecturers under the impact of the covid-19 Pandemic. The study used a semi-structured in-depth interview method on 14 teachers to figure out the stress characteristics of teachers when changing from face-to-face teaching to online one. Research results showed that teachers' stress increased due to lack of administrative support and overload due to pressure from equipping new techniques for teaching and preparing for online classes, in charge of communicating with students and parents to ensure peace of mind during the epidemic (Petrakova, Kanonire, Kulikova, & Orel, 2021).

Sharing the same interest as Petrakova, et al, Li et al (2020) also conducted a study to assess the prevalence of anxiety and explored its factors during the Covid-19 Pandemic among teachers in China. The study surveyed 88611 teachers from three cities in Henan province, China, between February 4, 2020 and February 12, 2020. The results showed that the overall anxiety rate was 13.67%, which women were

higher than men (13,89% compared to 12,93%) (Li, Miao, Zeng, Tarimo, Wu, & Wu, 2020).

2.3 Attitude factor

The adaptability of lecturers in the context of the Covid-19 epidemic was most evident in the change in teaching forms and methods. Online teaching was not only a suitable method in the context of 4.0 technology but also considered an effective solution in the period of Covid-19 prevention that many universities have applied simultaneously. (Özkaral & Bozyiğit, 2020; Mwale & Chita, 2020). However, this new form of teaching also created in itself many difficulties and challenges from anxiety and uncertainty (Delamarter & Ewart, 2020) in accessing and adapting to the use of technology in the classroom (He & Xiao, 2020).

Akour et al (2020) surveyed 382 teachers to assess the psychological status, challenges, and pressures of teachers regarding distance learning, coping activities, and related concerns, regarding the epidemic among lecturers in Jordan in the context of control and isolation related to the Covid-19 Pandemic. Research results showed that up to 31.4% of people surveyed were severely stressed. The findings also showed that lecturers were pressured to design technology for online teaching, which also affected spending time with their families.

Another study related to the adaptation to changes in teaching forms and methods under the impact of the Covid-19 epidemic was conducted by Hebebci, Bertiz, & Alan (2020) to find out the opinions of teachers and students about distance education applications during the Covid-19 Pandemic in Wuhan, China. A survey of 16 teachers and 20 students was done to find which challenges they had to deal with. This sample took into account both students and teachers with positive and negative views of distance education. The results showed that learning was scheduled and planned well, while other factors such as limited interaction and infrastructure problems were considered as major obstacles for online learning and teaching. Although the sample size is relatively small and not representative, the study has suggested a research problem to better understand the factors that can affect adaptability in online teaching and learning.

Online teaching-learning methods are also applied by Mizoram University to the teaching-learning process and semester exams. The purpose of the study was to address the necessary factors and mobilize resources to ensure the effectiveness of online teaching and learning in education in the context of the Covid-19 Pandemic. The authors applied both quantitative and qualitative methods to identify the perceptions of teachers and students about online teaching-learning methods, highlighting the process of implementing online teaching-learning methods, finding and understanding the feelings of teachers and students as well as figuring out difficulties and challenges in online teaching and learning methods. Research results showed that WhatsApp/Telegram and Email were two tools chosen by teachers and students to interact. Research also showed that there was teacher satisfaction with learning when they had well balanced between the physical and mental factors (Mishra, Gupta, & Shree, 2020: 13). However, the study did not show a relationship between this knowledge, the ability to use technology and this level of satisfaction.

2.4 Students' participation

It was closely related to the adaptation to changes in teaching forms and methods of lecturers was the research work of the authors Blundell, Castañeda, & Lee (2020). The study aimed to understand the factors leading to adaptation in online teaching and learning including three related research objects (1) students, (2) lecturers, and (3) the organization. The authors surveyed 382 teachers who responded to the interview. The results after using the Exploratory Factor Analysis (EFA) method showed that all three factors (1) the interaction between lecturers and students, (2) the role of technology, and (3) the support from the institutions and organizations affected the adaptation of lecturers to changing forms and methods of teaching.

2.5 University Support

Regarding the adaptability of lecturers to online teaching methods, there have been many studies of interest even in the short time the epidemic took place. The first is the work of Sokal, Trudel, & Babb (2020). Sokal, Trudel, & Babb (2020) carried out a survey of Canadian teachers (N = 1626) who participated in a longitudinal national survey, conducted at the beginning of the year. The results indicated that the effectiveness of teachers, attitudes towards change, and perceptions of administrative support were correlated with the resilience or burnout of teachers at the beginning of the epidemic. Through the first three months of the epidemic, teachers became increasingly exhausted and skeptical but also increased efficiency in classroom management and increased sense of accomplishment. However, teachers' cognition and emotional attitudes toward change became more negative. As a consequence, the shortfall of resources for meeting the needs leaded to teacher stress and burnout over time. This is a study with high reference value in terms of research content as well as research methods. The authors focused on the relationship between four independent variables (1) Resilience and burnout; (2) Attitudes towards technology; (3) Attitude towards change; (4) The support in terms of needs and resources for the job and the dependent variable on the lecturers' adaptability in online teaching (including 12 observed variables).

Online teaching methods during the Covid-19 epidemic are also interesting by author Nambiar (2020). The purpose of this study was to conduct an online survey on the perceptions and experiences of teachers and students regarding online classes. Offering classes through online media was a recent revision made by the education system in India in light of the current epidemic situation. As a result, this survey described colleges and universities, teachers' and students' perceptions and concerns regarding participation in mandatory online classes in the wake of the Covid-19 pandemic. The sample included 70 teachers and 407 students from colleges and universities in Bangalore city. An online survey method was used for data collection. Findings suggested that the following areas were important for teacher and student satisfaction with online classes, these areas being quality and timely interaction between students and professors, available technical support, structured online class modules, and modifications to accommodate the conduct of practice classes.

Singh, Phirriyalatha, & Suresh (2020) used a synthesis of available literature to describe the benefits of e-learning in the current scenario and thus created acceptance and adaptability between users and society. At the same time, challenges and limitations were also highlighted so that further work could be done in the future with preparations to reduce and minimize their influence. The research pointed out that online learning was not only the beginning after the Covid-19 epidemic, it would also take to the next level just thinking of the consequences of students sitting in front of technology in their homes and listening to their teachers.

Satpute (2021) conducted a study to find out the challenges faced by language teachers and their adaptability to online teaching during the Covid-19 epidemic. The study sample included 51 language lecturers teaching at the university in the state of Maharashtra. The "snowball" sampling technique was used to survey by the questionnaire. The results showed that there was a significant difference between the challenges faced by foreign language lecturers in urban and rural areas. But no significant difference was found between urban and rural language lecturers in adaptability to teaching in the online classroom, notwithstanding, there was no significant difference between urban and rural language lecturers in adaptability to teaching in the online classroom. The study suggested that although lecturers had tried to adapt to online teaching voluntarily, appropriate training and administrative support on how to use e-learning platforms were still needed.

From related studies mentioned above, this study focuses on the independent variables that affect the adaptability of lecturers in the context of the Covid-19 Pandemic, including (1) Psychology; (2) Attitude; (3) Technology; (4) Support from the University; (5) Students' participation; and (6) Cognitive factor have been identified and deeply analyzed in the case of lecturers working at USSH, VNU – HCM.

3. Research and Methodology

3.1 Research objectives

- To identify factors affecting lecturers' adaptability in teaching at USSH, VNU – HCM.
- To identify the factor that tops most influences lecturers' adaptability in teaching at USSH, VNU – HCM
- To propose solutions to help improve and enhance lecturers' adaptability at USSH, VNU – HCM

3.2 Research questions

- What are factors affecting lecturers' adaptability at USSH, VNU – HCM?
- What is the factor that tops most influences lecturers' adaptability at USSH, VNU – HCM?
- What are solutions to enhance lecturers' adaptability at USSH, VNU – HCM?

3.3 Research hypothesis

The study proposes four specific research hypotheses as follows:

H1: There is a significant relationship between psychological factors and lecturers' adaptability in teaching.

H2: There is a significant relationship between technological factors and lecturers' adaptability in teaching.

H3: There is a significant relationship between attitude factors and lecturers' adaptability in teaching.

H4: There is a significant relationship between students' participation and lecturers' adaptability in teaching.

H5: There is a significant relationship between cognitive factors and lecturers' adaptability in teaching.

H6: There is a significant relationship between university support and lecturers' adaptability in teaching.

3.4 Research framework

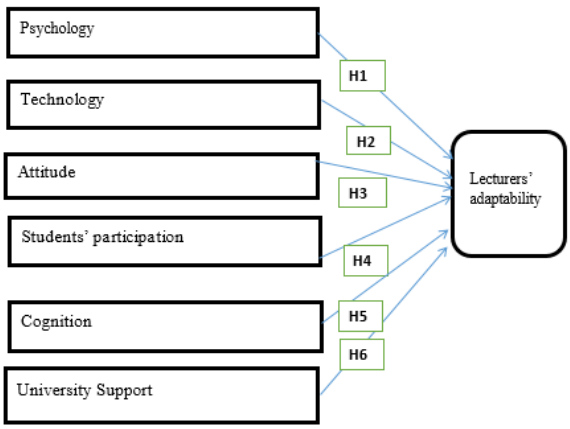

Figure 1. Research framework

3.5 *Research methods*

The article uses mainly quantitative methods, surveying 222 lectures working in different faculties at USSH, VNU – HCM. It uses a 5-point Likert scale, in which 1: Strongly disagree; 2: Disagree; 3: No opinion (neutral); 4: Agree; 5: Strongly agree. After being collected, the data will be processed by using SPSS 20 software.

3.5.1 *Sample size*

The size of the sample is designed based on Regression Analysis to evaluate how the factors affect the dependent variable. According to Green (1991) for the minimum sample size for regression analysis, if the research purpose wants to evaluate the factors of each independent variable such as t-test, and regression coefficient ... then the minimum sample size should be 104 + m (m is the number of independent variables). Applied in this study, with 4 independent variables, the required minimum sample size is: n = 104 + 4 = 108 observations.

At the same time, the sample size applied in this study is also based on the requirements of exploratory factor analysis (EFA) and multivariate regression. According to research by Hachter (1994) that, in EFA, the minimum sample size is 5 times the total number of observed variables. Applied in this study, with 41 observed variables, the required number of samples should be: n=5*41≥ 205 samples.

The total number of lecturers working at USSH, VNU – HCM currently has about 525 lectures (Department of Student Affairs, 2021). With a convenient sampling method, the research conducted a survey using a face-to-face questionnaire to collect data and using the google form tool from 07/07/2022 to 01/11/2022 and sent it to the faculties, departments of USSH, VNU – HCM. There were 222 valid responses to be processed to test hypotheses and draw conclusions.

3.6 *Data processing methods*

The information processing methods applied in this study include 3 main methods: (1) Assessing the reliability of the scale by Cronbach's Alpha coefficient; (2) Exploratory Factor Analysis (EFA); and (3) Linear regression analysis and hypothesis testing.

The Cronbach Alpha coefficient is used to eliminate internal consistency. Variables with item-total correlation or observed variables less than 0.30 will be excluded and the scale is selected when it has a Cronbach Alpha reliability coefficient of 0.60 or more (Trong & Ngoc, 2008). According to Mohsen Tavakol, and Reg Dennick, Cronbach's Alpha reliability coefficient must be in the range: of 0.7 ≤ Cronbach's Alpha coefficient ≤ 0.95. (Tavakol & Dennick, 2011). However, according to Vaske, Beaman, & Sponarski, the accepted Cronbach's Alpha coefficient depends on the number of observed variables, in which this coefficient can range from 0.65 to 0.80. (Vaske, Beaman, & Sponarski, 2016: 3). In this study, the authors will take Cronbach's Alpha coefficient from 0.65.

The study applies the scales from previous related works as detailed in the table below.

Table 1. Summary of scale sources from related studies

Items	Name of variables	Number of observed variables	Sources
1	Psychology	4	(Chou & Chou, 2021)
2	Cognition	9	(Abduh, 2021)
		9	(Almahasees, Khaled, & Amin, 2021)
3	Attitude	5	(Almahasees, Khaled, & Amin, 2021)
4	Ethnological ability	4	(Chou & Chou, 2021)
5	University Support	4	(Chou & Chou, 2021)

Items	Name of variables	Number of observed variables	Sources
6	Students' Participation	11	(Blundell & Castañeda, 2020)Nhóm nghiên cứu
7	Adaptability	2	(Răducu & Stănculescu, 2021)
		9	(Martin, Nejad, Colmar, & Liem, 2012)

Source: Data processing results

4. Results and Discussions

4.1 Participants

Gender. Male lecturers and female lecturers are relatively equal in number, however, female lecturers account for 116 cases (accounting for 52.3%).

Age. In general, lecturers aged 35 years or older account for a high proportion, in which, lecturers in the age group from 40 to 45 years old have 60 cases (27%) the highest among all ages. Lecturers under 25 years old only have 9 cases (accounting for 4.1%). This shows that most of the lecturers are middle-aged.

Titles and academic degrees. Regarding academic titles and degrees, it can be seen that, out of a total of 222 questionnaires, 151 cases are masters (accounting for 68%), the highest in this statistical section. Only 11 cases were Professors and Associate Professors (accounting for 5%).

Seniority. Statistics of working seniority show that the percentage of lecturers with long-term working experience is quite high. Specifically, out of 222 surveyed cases, there are 115 lecturers who have worked at the university for more than 10 years, from 5 years to less than 10 years, there are 65 cases, and only 42 cases work for less than 5 years (accounting for 18.9%).

Marital status. Statistical results show that in 222 surveyed cases, there are 7 cases of divorce and living with children (accounting for 3.2%). Meanwhile, there are 128 cases where the lecturers were married and had children (accounting for 57.7%), and 73 cases were not married (accounting for 32.9%).

The number of children. Statistical results show that in 222 surveyed cases, there are 7 cases of divorce and living with children (accounting for 3.2%). Meanwhile, there were 128 cases that the lecturers were married and had children (accounting for 57.7%), and 73 cases were not married (accounting for 32.9%).

Child rearing. There are 135 cases (accounting for 60.8%) of lecturers who do not have to raise children, meaning children depend on their parents to take care of them if they do not go to school, especially during the Covid-19 Pandemic period. In the remaining 87 cases (accounting for 39.2%) teachers had to raise children.

The impact of income due to the impact of the Covid-19 Pandemic. Although the university's salary remains unchanged, the statistics below still show that up to 163 cases had income being affected during the Covid-19 Pandemic.

Ability to live based on salary working at the university. Out of a total of 222 surveyed cases, only 18 cases answered that they could live on the salary of the University, and up to 204 cases (accounting for 91.9%) answered that they could not live based on the income of the university.

Table 2 below summarizes the main characteristics of the study sample.

Table 2. Summary of research sample information

Individual characteristics	Quantity	Percent (%)
Gender		
Male	106	47.4
Female	116	53.3

Individual characteristics	Quantity	Percent (%)
Age		
Under 25 years old	9	4.1
From 25 to 30 years old	34	15.3
From 30 to 35 years old	30	13.5
From 35 to 40 years old	48	21.6
From 40 to 45 years old	60	27.0
From 45 to 50 years old	20	9.0
From 50 years old	21	9.5
Titles and academic degrees		
Master	151	68.0
Doctor	60	27.0
Professor, Associate Professor	11	5.0
Seniority		
Less than 5 years	42	18.9
From 5 years to less than 10 years	65	29.3
Over 10 years	115	51.8
Marital status		
Single	73	32.9
Married but have no children	14	6.3
Married and has children	128	57.7
Divorce and live with children	7	3.2
Number of children		
Have no children	81	36.5
Have 1 child	46	20.7
Have 2 children	82	36.9
Have 3 children	13	5.9
Child rearing		
Yes	87	39.2
No	135	60.8
The impact of income		
Yes	163	73.4
No	59	26.6
Ability to live based on salary working at the university		
Yes	18	8.1
No	204	91.9

Source: Data processing results

4.2 Reliability analysis results of Cronbach's Alpha scale

After evaluating the reliability of the variables, the results show that Cronbach's Alpha has the following valuable components: Psychology (0.749), Cognition (0.444), Attitude (0.670), Technology (0.867), University Support (0.897), Students' Participation (0.243), Adaptability (0.938). The total number of initially observed variables is 41 variables (of which there are 32 observed variables measuring the independent variable component, and 9 observed variables measuring the dependent variable component). After evaluating the reliability and removing the variable, the total remaining variables are 26 observed variables (of which there are 17 observed variables belonging to the independent variable scale and 9 observed variables belonging to the dependent variable scale). The detailed results are presented in Table 3 below.

Table 3. Summary of Cronbach's Alpha Test

Items	Factors	Number of observed variables	Cronbach's Alpha coefficient	Evaluation
1	Psychology	4	0.749	Accept
2	Cognition	10	0.444	Don't accept
3	Attitude	5	0.670	Accept
4	Technology	4	0.867	Accept
5	University Support	4	0.897	Accept
6	Students' Participation	5	0.243	Don't accept
7	Adaptability	9	0.938	Accept

Source: Data processing results

In short, after Cronbach's Alpha is tested to check the reliability of the scales, there are two scales of dents' Participation and Cognition scales are excluded from the next process of analysis and the EFA model due to the unsatisfactory Cronbach's coefficient (less than 0.65).

4.3 Exploratory Factor Analysis (EFA)

Data were analyzed twice. For the first time, the two observed variables td1,and td4 were excluded due to having a factor loading coefficient of less than 0.5 and not ensuring convergence and discriminant criteria. After eliminating 2 observed variables (td1, td4), it was continued to analyze the second exploratory factor analysis with the remaining variables, and this time, no variables were excluded.

Table 4. Results of EFA analysis for factors affecting Adaptability

Observed variables	Scales			
	1 (University Support)	2(Technology)	3(Psychology)	4(Attitude)
tt1			.682	
tt2			.651	
tt3			.767	
tt4			.874	
td2				.798
td3				.667
td5				.557
cn1		.796		
cn2		.779		
cn3		.842		
cn4		.819		
truonght1	.834			
truonght2	.868			
truonght3	.823			
truonght4	.807			
Cronbach's alpha	0.897	0.867	0.749	0.670
Initial Eigenvalues	5.027	2.308	1.779	1.389
Total of Variance (%)	31.421	45.844	56.962	65.642

Source: Data processing results

4.4 Multivariable regression model of the factors that influenced on Lecturers' adaptability

The article uses multiple linear regression to identify, measure and evaluate the influence of factors affecting the adaptability of lecturers under the impact of the Covid-19 pandemic, with four factors extracted from the four factors discovered above including Psychology, Technology, Attitude, University Support and a dependent variable is Adaptability

We have the following linear regression model:

ADAPTABILITY = β_0 + β_1PSYCHOLOGY + β_2 ATTITUDE + β_3 UNIVERSITY SUPPORT + β_4 TECHNOLOGY.

In which β_0 is a constant, β_1 β_2 β_3, β_4 is the regression coefficient.

4.5 Testing the multivariable regression model of the factors influenced by lecturers' adaptability

To test the multivariable regression model affecting the adaptability factor of lecturers at USSH, VNU – HCM, the article considers the appropriateness of the regression model.

Table 5. Evaluation of model fit

Model Summary

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.571a	.326	.313	.45389	1.773

Source: Data processing results

The table shows that the adjusted R^2 is 32.6, which means that the independent variables in the model explain only 32.6% of the variation of the dependent variable, the remaining percentage is due to the variable not belonging to the model and random error. However, in the ANOVA table below, the P-value is less than 0.05, which means that the regression correlation model is suitable for the study sample.

Table 6. Result of the ANOVA test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.589	4	5.397	26.198	.000[b]
	Residual	44.706	217	.206		
	Total	66.295	221			
a. Dependent Variable: ADAPTABILITY						
b. Predictors: (Constant), TECHNOLOGY, PSYCHOLOGY, ATTITUDE, UNIVERSITY SUPPORT						

Source: Data processing results

The following is the result of regression analysis by Enter method for the variable Lectures' Adaptability.

Table 7. Results of Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.663	.273		6.083	.000		
	PSYCHOLOGY	-.024	.041	-.034	-.592	.555	.924	1.083
	ATTITUDE	.174	.051	.210	3.442	.001	.835	1.197
	UNIVERSITY SUPPORT	.200	.048	.266	4.157	.000	.761	1.313
	TECHNOLOGY	.227	.057	.257	3.953	.000	.736	1.359
Dependent Variable: ADAPTABILITY								

Source: Data processing results

In summary, the results of the regression analysis showed:

- UNIVERSITY SUPPORT, and TECHNOLOGY variables both have a P-value =0.000, which is less than 0.05, showing that it is statistically significant and has an influence on the Lectures' Adaptability variable.
- The ATTITUDE variable has a P-value =0.001, which is less than 0.05, showing that it is statistically significant and has an influence on the Lectures' Adaptability variable.
- The PSYCHOLOGY variable has a P-value =0.555, which is more than 0.05, showing that it is not statistically significant and has no influence on the Lectures' Adaptability variable. Therefore, we can conclude that psychological factors have no impact or influence on the adaptability of lecturers and will be excluded from the regression equation.

Table 7 also shows that the coefficient of variance of each factor is less than 10. It proves that the regression model does not violate multicollinearity.

From the results of the above regression analysis, we can see the relationship between the dependent variable "adaptability" and the three independent variables shown in the following regression equation:

ADAPTABILITY = 0.210* ATTITUDE + 0.266* UNIVERSITY SUPPORT + 0.257* TECHNOLOGY.

To determine the importance of factors to the adaptability of lecturers, it should be based on the standardized Beta coefficient. The larger the absolute value of any standardized Beta coefficient, the more important that factor is for the adaptability of lecturers.

According to the equation above, the dependent variable "lecturers' adaptability" has a linear relationship:

- Strongest with UNIVERSITY SUPPORT variable and has a positive relationship (B = 0.266, Beta > 0).
- The second is TECHNOLOGY variable and has a positive relationship (B = 0.257, Beta > 0).
- And finally is ATTITUDE variable and has a positive relationship (B = 0.210, Beta > 0).

5. Discussion

As analyzed above, in general, lecturers are mainly in the middle age (from 40 to 45 years old have 60 cases (27%)). This is also a big challenge in the adaptability of lecturers. According to Niessen, Swarowsky and Leiz, cognitive ability declines as increasing age and this can have a negative impact on employees' self-efficacy to deal effectively with new task demands and services (Niessen, Swarowsky, & Leiz, 2010). Research by Al-khresheh, Mohamed and Asif (2022) showed that lecturers between the ages of 31 and 40 years old, if they are fully equipped with instructions, have basic training and have experience in technology, they will adapt better to the use of technology in teaching (Al-khresheh, Mohamed, & Asif, 2022).

At the same time, out of 222 lecturers who answered the questionnaire, 116 were female lecturers, accounting for 52.3% more than male lecturers. This is also a point to consider in terms of adaptability and facilitation for working because female lecturers working from home or teaching online will be more influenced by the family, such as cooking, washing, taking care the children and so on (Araújo, 2008). In other words, they work not only for online teaching but also for doing a lot of things as a mother and a wife.

Although out of the total of 222 respondents, 115 lecturers have worked at the university for more than 10 years (accounting for 51.8%), showing long-term commitment. However, in the future, long-term development with a salary that lecturers cannot live on (up to 204 cases, accounting for 91.9%) answered that they cannot live on the University's salary) is one of the great difficulties for lecturers' adaptability because it is impossible to both focus on teaching with new technology and earn extra income (especially in the context of the Covid-19 pandemic) for a living.

On the other hand, it is also necessary to consider the dimensions based on the mean of the factors affecting the adaptability of the lecturers.

6. University Support

As mentioned above, online teaching relies heavily on technology, so it needs support from the University. Lack of technical skills, as well as lack of technical support, will make it impossible for lecturers to teach well in such an online environment. (Blundell, Castañeda, & Lee, 2020). University support is defined as psychological and material support from university leaders (Chou & Chou, 2021:3). This support includes infrastructure, coordination, and training that can alleviate teachers' technology-induced stress (Dong, Xu, Chai, & Zhai, 2020). As the research results showed, the variable University Support has the most influence on the adaptability of teachers. This shows that lecturers considered this as the most decisive factor in the adaptability of online teaching.

Below is the lecturers' assessment of the University support during the Covid-19 pandemic.

Table 8. Mean of University Support Factor

Observed variables	N	Mean	Std. Deviation
truonght1: The university cares about the needs of lecturers in the process of online teaching.	222	3.47	.805
truonght2: The university has promptly resolved the difficulties that the lecturers encountered in the process of teaching online	222	3.28	.843
truonght3: The university has provided information and suggested to lecturers the appropriate ways and means related to online teaching	222	3.46	.805
truonght4: The university has introduced policies to encourage and motivate lecturers during online teaching	222	3.37	.866

Source: Data processing results

Looking at the table above, it can be seen that the observed variable *truonght2: The university has promptly resolved the difficulties that the lecturers encountered in the process of teaching online* (mean = 3.28). This shows that the lecturers are still not satisfied with the support of the University promptly during the Covid-19 pandemic to teach online. This is also a shortcoming that the university is trying to overcome shortly.

6.1 Technological Factor

During the pandemic, teaching relies heavily on online teaching, which is very different from

traditional teaching in the face-to-face classroom. This was a big challenge for many lecturers because the use of technology in teaching required sufficient technology, capacity, and ability to respond to unexpected incidents (Chou & Chou, 2021). For majors with mainly distance learning, the ability to teach online through interaction and technologies is one of the criteria for lecturers to be recruited, trained, evaluated, and certified. (Paliwal & Singh, 2021).

Self-efficacy in online teaching refers to teachers' cognitive ability to guide and give feedback to students in online teaching (Chou & Chou, 2021, p.3). This competency involves the use of computer hardware, software, and educational theory and practice to facilitate learning, possibly a supported course with an online component. (Bailey & Lee, 2020). This research results show the relationship between technology factors and the adaptability of lecturers. This result also supports the study of Blundell, Castañeda, & Lee (2020).

Below is the teacher's assessment of the ability to use technology during online teaching.

Table 9. Mean of Technology

Observed variables	N	Mean	Std. Deviation
cn1: confident about online teaching platforms and software	222	3.51	.765
cn2: confidently in achieving the set goals when applying methods in online teaching.	222	3.53	.728
cn3: confidently assess which software and platforms are suitable for online teaching	222	3.49	.717
cn4: confidently support students to use technology in their online learning process.	222	3.43	.720

Source: Data processing results

Looking at the table above, it can be seen that the lecturers agree the lowest with the variable *cn4: confidently support students to use technology in their online learning process* (mean = 3.43). This proves to be a concern for lecturers and causes some obstacles in the online teaching process. Therefore, it is extremely necessary to have the support of the University in the online teaching process.

Table 10. Mean of Adaptability

Observed variables	N	Mean	Std. Deviation
thichung1: be able to think of some possible solutions to adapt to the new teaching situation	222	3.64	.695
thichung2: have the ability to change the way you think about a new teaching situation to help you get through it.	222	3.73	.644
thichung3: be able to adjust your thinking or expectations to accommodate a new instructional situation if necessary.	222	3.76	.632
thichung4: have the ability to find new information, and useful resources to adapt effectively to new teaching situations.	222	3.82	.636
thichung5: have the ability to develop new problem-solving approaches to overcome volatile situations.	222	3.74	.653
thichung6: have the ability to change working methods if necessary to adapt to a new teaching situation	222	3.82	.650
thichung7: have the ability to manage negative emotions to help them adapt to new teaching situations	222	3.72	.715
thichung8: have the ability to reduce frustration, and agitation to be able to adapt to it in the best way	222	3.71	.717
thichung9: have the ability to select positive feelings and emotions to help you adapt to new teaching situations	222	3.81	.686

Source: Data processing results

Looking at Table 10 above, it can be seen that the observed variables thichung6: *have the ability to change working methods if necessary to adapt to a new teaching situation* and *thichung4: have the ability to find new information, useful resources to adapt effectively to new teaching situations*, are of the highest agreed by lecturers (mean = 3.82), while *thichung1: be able to think of some possible solutions to adapt to the new teaching situation* is of the lowest (mean =3.64).

7. Conclusion

In summary, of the 4 factors identified in the regression model, there are three factors affecting the dependent variable Adaptability, in which the variable University support has the most influence on Adaptability. The Psychological factor was excluded from the regression equation due to the absence of influence. This can be explained because the variables of Technology, University Support, and Attitude have a strong impact and have overwhelmed the Psychological variable. On the other hand, due to the Covid-19 Pandemic, the use of technology for online teaching, the factor of Technology, as well as University support, has a more pronounced impact on adaptability.

With the results discussed above, in the current context, which has changed to the form of direct teaching, the Covid-19 pandemic is still showing signs of returning and may repeat unpredictable precedents, the study suggests the following recommendations:

It is necessary to promptly solve the difficulties that lecturers encounter in the process of teaching online

As mentioned in the discussion, although the lecturers highly appreciated the attention of the university, the lecturers were still not satisfied with the timely support of the University during the Covid pandemic - 19. Timeliness will support the ability to adapt objectively that lecturers sometimes cannot solve on their own, especially female lecturers, because they may be dominated by housework while at the same time parallel online teaching (Araújo, 2008).

Strengthening training and fostering the capacity of using technology for lecturers

As commented above, although the lecturers are confident that they can achieve the set goals when applying methods in online teaching, they are concerned about supporting students to use technology in the online learning process. Therefore, the university needs more training on the ability to use technology for lecturers, because if students use technology ineffectively, it also affects their ability to receive information from the content, subject knowledge as well as the ability to interact with lecturers. This can also cause a decrease or increase in student motivation (Hoskins & Hooff, 2005).

There are always scenarios for new and changeable situations in teaching

Unexpected change in the environment is an important factor leading to the decline in work performance, so it is necessary to devise strategies to adapt to the change in the external environment. (Cañas, Quesada, Antolí, & Fajardo, 2003).

As Table 10 shows, although the lecturers rated themselves highly as being capable of changing working methods if necessary to adapt to a new teaching situation as well as finding new information and useful resources to effectively adapt to new teaching situations, they seemed not to believe in their abilities to think of some possible solutions to adapt to new teaching situations.

Therefore, it is extremely necessary to have scenarios for many different situations to be able to support lecturers in changing situations. Adaptability is the ability to quickly adapt to any situation that may arise. While the context of the Covid-19 epidemic has not completely disappeared in the world as well as in Vietnam, using technology and upgrading effective online teaching methods is still a best-case scenario.

8. Acknowledgements

We would like to thank Vietnam National University, Ho Chi Minh City, and the University of Social Sciences and Humanities, Ho Chi Minh City for creating conditions for us to conduct the research.

Allow us to say sincere thanks to the lecturers at the University of Social Sciences and Humanities, Vietnam National University, Ho Chi Minh City, who enthusiastically responded to the survey questionnaires. Without them, this study could not have been completed with such good results.

9. Funding

This research is funded by Vietnam National University HoChiMinh City (VNU-HCM) under grant number C2022-18b-08

References

Abduh, M. (2021). Full-time Online Assessment during COVID -19 Lockdown: EFL Teachers' Perceptions. *Asian EFL Journal Research Articles. Vol. 28 Issue No. 1.1 February 2021.*

Ahmed, Y., Taha, M. H., Al-Neel, S., & Gaffar, A. M. (2018). Students' perception of the learning environment and its relation to their study year and performance in Sudan. *International Journal of Medical Education, 9, 145–150. doi:10.5116/ijme.5af0.1fee* .

Akhter, N. (2013). Relationship between internet addiction and academic performance among university undergraduates. *Educational Research and Reviews, 8(19), 1793–1796. https://doi.org/10.5897/ERR2013.1539.*

Al-khresheh, Mohamed, & Asif. (2022). Teachers' Perspectives Towards Online Professional Development Programs during the Period of COVID-19 Pandemic in the Saudi EFL Context. *FWU Journal of Social Sciences, Summer 2022, Vol. 16, No.2, 1-17.*

Almahasees, Z., K. M., & Amin, M. O. (2021). Faculty's and Students' Perceptions of Online Learning During COVID-19. *Front. Educ. 6:638470; doi: 10.3389/feduc.2021.638470.*

Al-Qahtani, M. F. (2015). Associations between approaches to study, the learning environment, and academic achievement. *Journal of Taibah University Medical Sciences, 10(1), 56–65. doi:10.1016/j.jtumed.2015.01.014* .

An, B. P. (2015). The Role of Academic Motivation and Engagement on the Relationship between Dual Enrollment and Academic Performance. *The Journal of Higher Education, 86(1), 98–126. doi:10.1080/00221546.2015.1 1777358.*

Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology, 95(4), 509–521. doi:10.1348/0007126042369802* .

Araújo, E. R. (2008). Technology, Gender and Time: A Contribution to the Debate. *Gender, Work and Organization. Vol. 15 No. 5 September 2008.*

Asvioa, N., Arpinusb, & Suharmon. (2017). The Influence of Learning Motivation and Learning Environment on Undergraduate Students' Learning Achievement of Management of Islamic Education, Study Program of Iain Batusangkar In 2016. *Noble International Journal of Social Sciences Research, ISSN(e): 2519-9722 ISSN(p): 2522-6789, Vol. 2, No. 2.* , 16-31.

Bahar, H. H. (2010). The effects of gender, perceived social support and sociometric status on academic success. *Procedia - Social and Behavioral Sciences, 2(2), 3801–3805. doi:10.1016/j.sbspro.2010.03.593* .

Bailey, D. R., & Lee, A. R. (2020). Learning from Experience in the Midst of COVID-19: Benefits, Challenges, and Strategies in Online Teaching. *Computer-Assisted Language Learning Electronic Journal, 21(2)* , 176-196.

Blundell, G. E., & Castañeda, D. A. (2020). A Multi-Institutional Study of Factors Influencing Faculty Satisfaction with Online Teaching and Learning. *A Multi-Institutional Study of Factors Influencing Faculty Satisfaction with Online Teaching and Learning.*

Blundell, G., Castañeda, D., & Lee, J. (2020). A Multi-Institutional Study of Factors Influencing Faculty Satisfaction with Online Teaching and Learning. *Online Learning, 24(4), 229-253. https://doi.org/10.24059/olj.v24i4.2175.*

Cañas, J., Quesada, J., Antolí, A., & Fajardo, I. (2003). Cognitive flexibility and adaptability to environmental changes in dynamic complex problem-solving tasks. *Ergonomics, 46:5, 482-501, DOI: 10.1080/001401303 1000061640.*

Collie, R. J., Granziera, H., & Martin, A. J. (2018). An investigation employing the job demands-resources model as relevant to workplace exhaustion, disengagement, and commitment. *Teaching and Teacher Education, 74, 125–136. https://doi.org/10. 1016/j.tate.2018.04.015.*

Chang, C.-T., Tu, C.-S., & Hajiyev, J. (2019). Integrating academic type of social media activity with perceived academic performance: A role of task-related and non-task-related compulsive Internet use. . *Computers & Education. doi:10.1016/j.compedu.2019.05.011.*

Chiu, S.-I., Hong, F.-Y., & Hu, H. (2014). The effects of family cultural capital and reading motivation on reading behaviour in elementary school students. *School Psychology International, 36(1), 3–17. doi:10.1177/014303431 4528488* .

Chou, C., & Hsiao, M. (2000). Internet addiction, usage, gratifications, and pleasure experience: the Taiwan College Student"s case. *Comput. Educ. 35:65-80*.

Chou, H.-L., & Chou, C. (2021). A multigroup analysis of factors underlying teachers' technostress and their continuance intention toward online teaching. *Computers & Education 175 (2021) 104335*.

Decision of the Prime Minister (2021). *https://thuvienphapluat.vn/van-ban/Giao-duc/Quyet-dinh-711-QD-TTg-nam-2012-Chien-luoc-phat-trien-giao-duc-2011-2020-141203.aspx.* Retrieved from https://thuvienphapluat.vn.

Dogan, U. (2015). Student Engagement, Academic Self-efficacy, and Academic Motivation as Predictors of Academic Performance. *The Anthropologist, 20(3), 553–561. doi:10.1080/09720073.2015.11891759* .

Dong, Y., Xu, C., Chai, C. S., & Zhai, X. (2020). Exploring the structural relationship among teachers' technostress, technological pedagogical content knowledge (TPACK), computer self-efficacy and school support. *The Asia Pacific Education Researcher, 29(2), 147. https://doi.org/10.1007/s40299-019-00461-5*.

Doty, B. A. (1967). Teaching Method Effectiveness in Relation to Certain Student Characteristics. *The Journal of Educational Research, 60(8), 363–365. doi:10.1080/00220671.1967.10883516*.

Duckworth, A. L.-W. (2019). Self-Control and Academic Achievement. *Annual Review of Psychology, 70(1), 373–399. doi:10.1146/annurev-psych-010418-103230* .

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41, 1040-1048*.

Eryilmaz, & Mammadov. (2016). Developing the Scale of Factors Increasing Study Motivation. *Journal of European Education 6 (2) 2016 ISSN 2146-2674*.

Frangos, C., & Frangos, C. (2009). Internet Dependence in College Students from Greece. *Eur. Psychiatry 24(Suppl 1):S419*.

Frønes, I. (2016). Socialization in Sociological Perspectives. *In: The Autonomous Child. SpringerBriefs in Well-Being and Quality of Life Research. Springer, Cham. https://doi.org/10.1007/978-3-319-25100-4_2*, 11-35.

Gecas, V. (1990). Contexts of Socialization. In M. Rosenberg, & R. H. Turner, *Social Psychology - Sociological Perspectives* (p. 35). New York: Routledge, 1st Edition.

Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (1994). Role of parental motivational practices in children's academic intrinsic motivation and achievement. *Journal of Educational Psychology, 86(1), 104-113*.

Green, S. B. (1991). How Many Subjects Does It Take To Do A Regression Analysis. *Multivariate Behavioral Research, 26(3), 499–510. doi:10.1207/s15327906mbr2603_7* .

Gietz, C., & McIntosh, K. (2014). Relations Between Student Perceptions of Their School Environment and Academic Achievement. *Canadian Journal of School Psychology, 29(3), 161–176. doi:10.1177/0829573514540415* .

Hamalik, O. (2008). Teaching and Learning Process. *Jakarta: PT. Earth Script. (Indonesian* .

Hannaford, L. (2016). Motivation in group assessment: a phenomenological approach to post-graduate group assessment. *Assessment & Evaluation in Higher Education, 42(5), 823–836. doi:10.1080/02602938.2016.1195787*.

Hatcher, L. (1994). A Step-by-Step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling. *SAS Institute, Inc., Cary.* .

Hien, L. T., Hang, N. T., Thuy, L. P., Trinh, L. T., Nhi, N. T., Tram, N. T., & Trung, T. (2020). Factors Affecting Academic Performance Of First-Year University Students: A Case Of A Vietnamese University. *International Journal of Education and Practice; 2020 Vol. 8, No. 2, pp. 221-232*.

Honnekeri, B. S., Goel, A., Umate, M., Shah, N., & De Sousa, A. (2017). Social anxiety and Internet socialization in Indian undergraduate students: An exploratory study. *Asian Journal of Psychiatry, 27, 115–120. doi:10.1016/j.ajp.2017.02.021* .

Hoskins, S. L., & Hooff, J. C. (2005). Motivation and ability: which students use online learning and what influence does it have on their achievement? *British Journal of Educational Technology Vol 36 No 2 2005 177–192*.

Iyitoğlu, O., & Çeliköz, N. (2017). Exploring the impact of internet addiction on academic achievement. *European Journal of Education Studies, European Journal of Education Studies, Volume 3, Issue 5, 38 – 59;* .

Jefri Kurniawan, Z., Effendi, M., & Dwita, S. (2018). The Effect of School Environment, Family Environment and Learning Motivation on Students' Learning Performance. *Advances in Economics, Business and Management Research, Atlantis Press, volume 57, https://doi.org/10.2991/piceeba-18.2018.6*.

Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior, 28, 187–198.*

Karimi, Y., Bashirpur, M., Khabbaz, M., & Hedayati, A. A. (2014). Comparison between Perfectionism and Social Support Dimensions and Academic Burnout in Students. *Procedia - Social and Behavioral Sciences, 159, 57–63. doi:10.1016/j.sbspro.2014.12.328* .

Koles, P. G., Stolfi, A., Borges, N. J., Nelson, S., & Parmelee, D. X. (2010). The Impact of Team-Based Learning on Medical Students' Academic Performance. *Academic Medicine, 85(11), 1739–1745. doi:10.1097/acm.0b013e31 81f52bed* .

Kori, K., Pedaste, M., Altin, H., Tonisson, E., & Palts, T. (2016). Factors That Influence Students' Motivation to Start and to Continue Studying Information Technology in Estonia. *IEEE Transactions on Education, 59(4), 255–262. doi:10.1109/te.2016.2528889* .

Khalaila, R. (2015). The relationship between academic self-concept, intrinsic motivation, test anxiety, and academic achievement among nursing students: Mediating and moderating effects. *Nurse Education Today, 35(3), 432–438. doi:10.1016/j.nedt.2014.11.001* .

Lee, C.-Y. S., & Goldstein, S. E. (2015). Loneliness, Stress, and Social Support in Young Adulthood: Does the Source of Support Matter? *Journal of Youth and Adolescence, 45(3), 568–580. doi:10.1007/s10964-015-0395-9* .

Li, J., Han, X., Wang, W., Sun, G., & Cheng, Z. (2018). How social support influences university students' academic achievement and emotional exhaustion: The mediating role of self-esteem. *Learning and Individual Differences, 61, 120–126. doi:10.1016/j.lindif.2017.11.016* .

Lizzio, A., Wilson, K., & Simons, R. (2002). University Students' Perceptions of the Learning Environment and Academic Outcomes: implications for theory and practice. *Studies in Higher Education Volume 27, No. 1, 2002.*

Lun, K. W., CK Chan, P. K., Tsai, W., Wong, C., Wong, C. H., Wong, T., & Yan, D. (2018). Depression and anxiety among university students in Hong Kong. *Hong Kong Medical Journal" DOI: 10.12809/hkmj176915.*

Ma, K., Chutiyami, M., Zhang, Y., & Nicoll, S. (2021). Online teaching self-efficacy during COVID-19: Changes, its associated factors and moderators. *Education and Information Technologies (2021) 26:6675–6697; https://doi.org/10.1007/s10639-021-10486-3.*

Maharaj, C., Blair, E., & Chin Yuen Kee, S. (2016). The motivation to study: an analysis of undergraduate engineering students at a Caribbean university. *Journal of Further and Higher Education, 42(1), 24–35. doi:10.1080/0309877x.2016.1188901.*

Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. (2012). Adaptability: Conceptual and Empirical Perspectives on Responses to Change, Novelty and Uncertainty. *Australian Journal of Guidance and Counselling; Volume 22 | Issue 1 | 2012 | pp. 58–81 | c The Authors 2012 | doi 10.1017/jgc.2012.8.*

Martin, A. J., Nejad, H., Colmar, S., & Liem, G. A. (2012). Adaptability: Conceptual and empirical perspectives on responses to change, novelty and uncertainty. . *Australian Journal of Guidance and Counselling, 22(1), 58–81. https://doi.org/10.1017/jgc.2012.8.*

Mihăilescu, A. I., Ciobanu, A. M., Donisan, T., & Mihailescu, C. (2016). The impact of anxiety and depression on academic performance in undergraduate medical students. *European Psychiatry, 33, S284. doi:10.1016/j.eurpsy.2016.01.761.*

Ministry of Education and Training (2020, 07 10). *https://moet.gov.vn/Pages/tim-kiem.aspx?ItemID=6787.* Retrieved from Ministry of Education and Training

Müller, F. H., & Louw, J. (2004). Learning Environment, Motivation and Interest: Perspectives on Self-Determination Theory. *South African Journal of Psychology, 34(2), 169–190. doi:10.1177/008124630403400201.*

Musa, M. F., Bernabé, E., & Gallagher, J. E. (2015). Students' motivation to study dentistry in Malaysia: an analysis using confirmatory factor analysis. *Che Musa et al. Human Resources for Health (2015) 13:47, DOI 10.1186/s12960-015-0040-4.*

Niessen, C., Swarowsky, C., & Leiz, M. (2010). Age and adaptation to changes in the workplace . *Journal of Managerial Psychology, Vol. 25 Issue: 4, pp.356-383* .

Nissim, Y., Weissblueth, E., Scott-Webber, L., & Amar, S. (2016). The Effect of a Stimulating Learning Environment on Pre-Service Teachers' Motivation and 21st Century Skills. *Journal of Education and Learning; Vol. 5, No. 3; 2016*, 29-39.

Paliwal, M., & Singh, A. (2021). Teacher readiness for online teaching-learning during COVID 219 outbreak: a study of Indian institutions ofhigher education. *Interactive Technology and Smart Education* .

Pham, H. H., & Ho, T. T. (2020). Toward a 'new normal' with e-learning in Vietnamese higher education during the post COVID-19 pandemic. *Higher Education Research & Development*.

Phạm, L. T., & Phan, A. N. (2021). "Let's accept it": Vietnamese university language teachers' emotion in online synchronous teaching in response to COVID-19. *Educational and Developmental Psychologist* .

Răducu, C.-M., & Stănculescu, E. (2021). Adaptability to Online Teaching during Covid-19 Pandemic: A Multiple Mediation Analysis Based on Kolb's Theory. *Int. J. Environ. Res. Public Health 2021, 18, 8032. https:// doi.org/10.3390/ijerph18158032.*

Reed, P., & Reay, E. (2015). Relationship between levels of problematic Internet usage and motivation to study in university students. *High Educ 70, 711–723 (2015). https://doi.org/10.1007/s10734-015-9862-.*

Reed, P., & Reay, E. (2015). Relationship between levels of problematic Internet usage and motivation to study in university students. *High Educ 70, 711–723 (2015). https://doi.org/10.1007/s10734-015-9862-1.*

Rehman, A. U., Bhuttah, T. M., & You, X. (2020). Linking Burnout to Psychological Well-being: The Mediating Role of Social Support and Learning Motivation. *Psychology Research and Behavior Management, Volume 13, 545–554. doi:10.2147/prbm.s250961.*

Roberts, T. A., & Sadler, C. D. (2018). Letter sound characters and imaginary narratives: Can they enhance motivation and letter sound learning? *Early Childhood Research Quarterly. doi:10.1016/j.ecresq.2018.04.002.*

Saadon, N. F., Ahmad, I., & Pee, A. N. (2020). The Implementation of Augmented Reality in Increasing Student Motivation: Systematic Literature Review. *IOP Conference Series: Materials Science and Engineering 854 012043.*

Santhya, K. G. (2015). School quality and its association with agency and academic achievements in girls and boys in secondary schools: Evidence from Bihar, India. . *International Journal of Educational Development, 41, 35–46. doi:10.1016/j.ijedudev.2014.12.002* .

Schmidt, S. J. (2020). The importance of friendships for academic success. *J Food Sci Educ. 2020;19:2–5.*

Shahnaz, I., & Karim, A. R. (2014). The Impact of Internet Addiction on Life Satisfaction and Life Engagement in Young Adults . *Universal Journal of Psychology 2(9): 273-284, 2014 http://www.hrpub.org DOI: 10.13189/ujp. 2014.020902.*

Singha, S., Jhab, S. K., Puniac, A., & Babitad. (2019). The Relationship between Test Anxiety and Academic Performance among Undergraduate Medical Students: A Cross-sectional Study. *Proceedings of International Conference on Sustainable Computing in Science, Technology and Management (SUSCOM), Amity University Rajasthan, Jaipur - India, February 26-28, 2019, Available at SSRN: https://ssrn.com/abstract=3358112 or http://dx.doi.org/10.*

Spence, R., Kagan, L., Nunn, S., Bailey-Rodriguez, D., Fisher, H. L., Hosang, G. M., & Bifulco, A. (2020). Life events, depression and supportive relationships affect academic achievement in university students. *Journal of American College Health, DOI: 10.1080/07448481.2020.1841776.*

Susanti, T., Damris, Maison, & Tanti. (2020). Learning Environment and Motivation in Junior High School. *Universal Journal of Educational Research, 8 (5). pp. 2047-2056.*

Trong, H., & Ngoc, C. N. (2008). *Statistics applied in economy and society.* Statistical Publishing House.

Truzoli, R., Viganò, C., Galmozzi, P., & Reed, P. (2019). Problematic internet use and study motivation in higher education. *J Comput Assist Learn.;1–7. https://doi. org/10.1111/jcal.12414.*

Urdan, T., Solek, M., & Schoenfelder, E. (2007). Students' perceptions of family influences on their academic motivation: A qualitative analysis. *Eur J Psychol Educ 22, 7–21 (2007). https://doi.org/10.1007/BF03173686.*

Usher, A., & Kober, N. (2012). What Roles Do Parent Involvement, Family Background, and Culture Play in Student Motivation? *Center on Education Policy available at : https://eric.ed.gov/?id=ED532667.*

Vaske, J. J., Beaman, J., & Sponarski, C. C. (2016). Rethinking Internal Consistency in Cronbach's Alpha, Leisure Science. *Leisure Sciences.*

Wals, A. E., & Benavot, A. (2017). Can we meet the sustainability challenges? The role of education and lifelong learning. *European Journal of Education, 52(4), 404–413. doi:10.1111/ejed.12250* .

Wijaya, O. P., & Bukhori, I. (2017). Effect of Learning Motivation, Family Factor, School Factor, and Community Factor on Student Learning Outcomes on Productive Subjects. *Jurnal Pendidikan Bisnis dan Manajemen Volume 3, Nomor3, November 2017, Halaman 192 – 202, DOI: http://dx.doi.org/10.17977/um003v3i32017p192.*

Yunyun, Zhang, Xingna, Qin, Ping, & Ren. (2018). Adolescents' academic engagement mediates the association between Internet addiction and academic achievement: The moderating effect of classroom achievement norm. *Computers in Human Behavior, Volume 89, December 2018, Pages 299-307*