



Evaluate the Impact of Covid-19 Epidemic on Tertiary Education, Training, and Scientific Research in Universities in Vietnam

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Abstract: The current COVID-19 epidemic has been posing unprecedented challenges to normal work and study environment. In countries that heavily affected by prolonged lockdown and limited healthcare capacity as Vietnam, the tertiary education and scientific research system were particularly impacted. Findings of this study provide implications for the experienced positive and negative aspects of tertiary education and scientific research during COVID-19, as well as the perceived needs for further training and support from higher authorities. Further research should focus on preparing and constructing long-term strategy for effective research and teaching for the prolonged epidemic.

Keywords: evaluate, impact, covid-19 epidemic, lecturers, university researchers, Vietnam

1. INTRODUCTION

Covid-19 has impacted all aspects of social life, including how everyone works, studies, teaches, and research. In this study, the authors explore changes or impacts of Covid on teaching and research. Learn about the advantages and disadvantages of teaching and research. In addition, we propose solutions to adapt teaching and research during the Covid-19 epidemic.

The research team surveyed the data in August 2021, when Vietnam was in the 4th wave of Covid. With 226 respondents, who are lecturers and researchers across three regions of Vietnam.

2. CURRENT STATUS OF TEACHING AND SCIENTIFIC RESEARCH ACTIVITIES DURING THE COVID-19 PANDEMIC IN VIETNAM

Objectives

This study assessed Vietnamese university lecturers and researchers' experience of tertiary education and research during COVID-19 epidemic.

Method

The study was conducted in August 2021 when Vietnam was in the 4th wave of Covid-19 epidemic. Data is collected through a survey using Google Forms. Then, through a group of colleagues who are lecturers and researchers at universities and research institutes across the country, we sent out a questionnaire and asked for their opinions on the impacts of Covid-19 to university research and teaching. The sample we selected for the study in 3 regions of North, Central and South, Vietnam. Survey subjects are lecturers and researchers working in universities and research institutes in Vietnam. The number of people surveyed was 226 people, of which the most people were from the North, accounting for 51.3%, 25.2% of the people in the Central region, and 23.5% of the people in the South. Most of the respondents in this study have been teaching or doing research in the past 12 months, this rate is 84.4%. Regarding ethnic composition, the majority of respondents in this study are Kinh ethnic group, accounting for 87.2%, the rest are Tay, Muong, etc. Regarding working experience, the group of lecturers and researchers has seniority >10-15 years accounted for the highest

rate was 28.3%, followed by group with seniority of teaching and research >20 years was 27.9%, group with seniority in teaching and research <5 years account for at least 5.8%, the rest are other groups.

2.1. Teaching and Researching in the COVID-19 Epidemic

When the authors conducted this research survey, Vietnam was in the fourth phase of the Covid epidemic. Thus, most universities have implemented at least one semester of online teaching. Experiencing the reality, the lecturers shared the difficulties they encountered during that time. The data is shown in the table below:

Table. Difficulties in teaching in Vietnam during the Covid-19 pandemic (%)

No.	Criteria	Quantity	Ratio
1	Lecturers with little online teaching experiences	76	39
2	Difficulty in testing, assessing learning outcomes	108	55,4
3	Difficult in controlling students	119	61
4	Lack of teaching facilities	78	40
5	Students' lack of focus in online studying	143	73,3
6	Difficult to construct lectures	21	10,8

When teaching online, there are many difficulties for the lecturers. In which the majority of the respondents' difficulties were that "Students' lack of focus in online studying," this rate accounts for 73.3%, then comes other criteria such as "difficulty in controlling students." or "difficulty in testing, assessing learning outcomes" or "lack of teaching facilities." In addition, the difficulties faced by online lecturers, such as lack of facilities and difficulty in constructing online lectures, are also challenges when teaching during the Covid 19 pandemic. Similar to the assumption that many lecturers are confused about implementation techniques... the ability to apply information technology in teaching is still limited, and the use of online learning software is not fluent, leading to ineffective performance. Moreover, most teachers who are used to the physical environment directly in front of students, now teaching in the online environment, many teachers will be confused or not confident when implementing the lecture"[1].

Online teaching is not only difficult for teachers who are not yet proficient in implementation techniques but also to mention the difficulties and lack of facilities. In this study, 40% of respondents indicated is the factor leading to challenges in teaching during the Covid-19 epidemic because the existing infrastructure in the education system has never coped with online teaching. So, when it comes to online teaching, the shortages are not only from the university's faculties but also from the students. Many families have found it challenging to equip their children with computers or ensure a stable connection for their studies, many students in mountainous and highland areas have to "regularly go to the garden to connect to the network, but many times experience connection error," or students are living in difficult conditions, they buy computers in installments to serve their online learning[2]. Besides students' difficulties in transmission lines and conditions for buying computers for online learning, some students still work part-time. Therefore, in the process of online learning, teachers also face difficulties in controlling the students. Thus, up to 61% of respondents answered, "It is difficult to control students" rather than teaching directly in class.

In addition to understanding the effects of Covid-19 on teaching, the research team also investigated the impact of Covid-19 on scientific research. We realize that during the Covid-19 pandemic, there were also challenges for researchers.

Table. Evaluation of the impact of Covid on scientific research (%)

No.	Criteria	Impact of Covid on scientific research				
		Very negative	Negative	No effect	Positive	Very positive
1	Data collection ability	5,3	32,2	47,6	14,5	0,4
2	Research topic	1,3	16,3	61,2	20,3	0,4
3	Ability to analyze the data	0,4	23,8	57,3	17,2	0,9
4	Ability to apply for financial and material support	9,3	56,4	28,6	5,3	0,4
5	Research manpower	9,7	48,5	33,5	7,0	0,9
6	Ability to publish research	3,5	33	53,7	9,3	0,4

Research data shows that Covid has dramatically affected the research work. Most researchers rate “negative” for “Ability to apply for financial and material support” at 56.4%. Next are the difficulties that the researcher pointed out as the difficulty of “Research manpower” “data collection ability.”

With sig <0.001, Cramer's V= 0.303 shows a statistically significant difference between the perception of difficulty in "data collection ability" of researchers of the three regions of North, Central, and South Vietnam. Researchers or university lecturers in the North said that the Covid-19 epidemic negatively impacted nearly twice the same opinion in the South.

In addition, the study also explores the relationship between the respondents' teaching and research seniority and the assessment of difficulties when researching the Covid-19 epidemic, with sig = 0.515 for the research group, which concluded that there is no difference between the seniority of researchers and the difficulties in the Covid-19 epidemic. In other words, researchers or lecturers conducting research encounter difficulties when “conducting data collection in research.”

2.2. The Support that Lecturers and Researchers Receive during the Covid-19 Pandemic

Table. *The support lecturers receive when teaching during the Covid-19 pandemic (%)*

No.	Criteria	Quantity	Ratio
1	Supporting rescue package for universities	7	3,2
2	Enhancing online connectivity and education	53	24,4
3	Improving internet infrastructure and access	103	47,5
4	Strengthening accreditation and approval systems for digital learning	87	40,1
5	Expanding learners' access to online digital platforms and applications	124	57,1
6	Additional support for teachers and lecturers in online teaching	143	10,8

Research data shows that lecturers and researchers have also received support during the Covid-19 epidemic. The most support teachers found was “**Expanding learners’ access to online digital platforms and applications,**” followed by “**Improving internet infrastructure and access**” and “**Strengthening accreditation and approval systems for digital learning.**”

Thus, in general, the lecturers recognize that there has been support from the school and the support for teachers in online teaching activities.

The change in online teaching is an inevitable trend. Creating advantages so that lecturers and students do not have to move, reducing the risk of disease outbreaks. However, online education also encounters problems such as unstable transmission lines, lack of concentration in students. But the investment from the school more or less creates peace of mind in the lecturers.

Research data shows that there are impacts from the Covid-19 epidemic on teaching and scientific research activities of lecturers and researchers. However, there has also been supporting scientific research during the pandemic. As follows:

Table. *Support for scientific research during the Covid-19 pandemic (%)*

No.	Criteria	Quantity	Ratio
1	Supporting rescue package for research facilities	7	3,4
2	Enhancing online connectivity and research	65	31,3
3	Improving internet infrastructure and access	107	51,4
4	Strengthening accreditation and approval systems for digital researching	70	33,7
5	Expanding researchers' access to online digital platforms and applications	109	52,4
6	Additional support for researchers in online teaching	93	44,7

The primary support from the grassroots for lecturers and researchers is “*Expanding access for researchers to online digital platforms and applications,*” which accounts for the largest percentage of 52.4%. Then comes other support such as “*Improving internet infrastructure and access*” or “*Additional support for research in research activities.*” These supports can be from online survey support.

Not only did the research team find out the support packages for scientific research during the Covid-19 pandemic in Vietnam, but the research team also looked into the support for university teaching that the lecturers received. Support for university teaching is shown in the following data:

Table. Support for lecturers during the Covid-19 pandemic (%)

No.	Criteria	Quantity	Ratio
1	Enhancing facilities for online teaching	137	60,9
2	Improving skills training for online teaching	182	80,9
3	Improving online exam monitor training	95	42,2
4	Enhancing online exam grading guideline	83	36,9
5	Supporting vaccination for lecturers	98	43,6
6	Increasing the cost of online examination	952	23,1
7	Other	0	0

The most significant support for teaching these lecturers receive from the grassroots unit is “Improving skills training for online teaching,” accounting for 80.9%, followed by “Enhancing facilities for online teaching,” accounting for 60.9%. Thus, it can be seen that skills training for online teaching is an essential factor and needs to be implemented quickly because lecturers are a crucial factor in ensuring the output standards of the training program. However, the principle of online teaching requires ensuring good and complete output standards for learners. Some of the less important teaching contents in traditional training can be adjusted and simplified when conducting online training. But it is necessary to ensure the equivalence between the output standards of the courses in the online training method with the traditional concentration method”[3].

Besides the support for online teaching skills training and some other asset, the research team found that the lecturers are also supported with vaccination. Lecturers from 16 groups were prioritized for Covid-19 vaccination by the government according to Decision 3355/QD-BYT on the plan to deploy the COVID-19 vaccination campaign in 2021-2022. Therefore, vaccination support is provided not only according to the Ministry of Health but also to assure the lecturers to focus on teaching. In this study, 87.2% of the surveyed people are Kinh, and 12.8% are other ethnic groups, the Tay, Muong, and some other ethnic groups. With $sig > 0.05$, there is no difference between trainers of different ethnicities in supporting vaccination. This also shows that there is equality in vaccination among trainers of different ethnicities.

In this study, the authors also examined support for scientific research. The results are shown in the following data:

Table. Support for scientific research during the Covid-19 pandemic (%)

No.	Criteria	Quantity	Ratio
1	Providing online training courses in scientific research	69	30,9
2	Providing support in services and technologies for online scientific research	118	52,9
3	Financial support for scientific research	105	47,3
4	Supporting vaccination for researchers	69	31,1
5	Other	0	0

Research data shows that the most grassroots support that the surveyors answered is “Providing support in services and technologies for online scientific research,” with the rate of 52.9%. Then comes “Financial support for scientific research.” Grassroots support for researchers during the Covid-19 pandemic is also crucial, given the hard-hitting general economy, “the COVID-19 pandemic and prolonged lockdowns have weakened consumption and investment, limiting Vietnam’s growth prospects”[4]. However, there are still some researchers who claim to be financially supported for their research. This is a positive signal for Vietnamese scientific research during the Covid-19 pandemic.

With $sig < 0.001$, Cramer’s $V=0.439$ shows a difference in financial support for scientific research for researchers in 3 regions North, Central, and South. The majority of scientific researchers in the Central and the South said that they received financial research support, then came to the North, with the proportion of 82.1%, 50%, and 28.9%, respectively.

3. PROPOSING SOLUTIONS TO SUPPORT TEACHING AND SCIENTIFIC RESEARCH DURING THE COVID-19 PANDEMIC IN VIETNAM

Solutions to support teaching and scientific research during the Covid-19 epidemic are essential. In particular, the solutions are shown as follows:

Table. Solutions to support teaching during the Covid-19 pandemic (%)

No.	Criteria	Quantity	Ratio
1	Fostering and training for teaching staff on information technology	133	59,4
2	Financial and technology equipment support for lecturers	135	60,3
3	The school proposes ways to evaluate the results appropriately and to avoid cheating in the exam	135	60,3
4	The school provides an online repository of learning materials for teaching and learning	145	64,7
5	Other	224	98,7

The solution answered by the majority of lecturers in this survey is “*The school provides an online repository of learning materials for teaching and learning.*” Because having an online repository of materials for teaching and learning will help complete the teaching program and meet the output standards of the training program. In addition, the respondents also suggested “*ways to evaluate the results appropriately and to avoid cheating in the exam,*” this rate is relatively high, 60.3%. Besides the requirements for teaching quality, the correct assessment of learners is also an essential factor in meeting the training program’s output standards. There needs to be unity and direction from authorities such as the Ministry of Education and Training with the online assessment method.

Besides, there are also several other suggestions: dividing the class size that the lecturer is managing, building an infrastructure for online testing and assessment, and building an online teaching platform.

Table. Solutions to support scientific research during the Covid-19 pandemic (%)

No.	Criteria	Quantity	Ratio
1	Fostering and training teams of scientific researchers in information technology	153	67,4
2	Financial and technology equipment support for scientific research	173	76,2
3	Support online survey connection	96	42,5
4	Support to publish research results in an online form	102	45,1

The most obvious solutions for scientific research are the desire for “Financial and technological equipment support for scientific research,” accounting for 76.2%. Supporting online survey connections are also a highly recommended solution, with a rate of 42.5%.

4. CONCLUSION

With common difficulties and challenges in the face of the Covid-19 pandemic, Vietnam and many other countries have to face economic challenges and social disturbances, and education, training, and scientific research are no exception. But the advantages that the teaching staff and the scientific researchers receive from the government and the grassroots. Therefore, proposed solutions to specifically support lecturers such as training, online teaching training, building a method of fair assessment and evaluation, avoiding fraud are the solutions that are proposed a lot. In addition, for researchers, the proposed solution is mainly financial support, technological equipment for scientific research. However, those solutions are temporary and need to be deployed and replicated in the near future, when we have to accept living with the Covid-19 pandemic but still have to carry out life activities, including teaching and scientific research.

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