



A study of problems of lecturers in using ICT applications in online teaching at Souphanouvong University during the COVID-19 pandemic

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Abstract

This article aimed to present research result at Souphanouvong University in 2021. The objectives were to find out the applications used by lecturers for teaching online and to determine the problems of lecturers in using ICT applications to teach online. This research used a quantitative method. The researchers contacted the 340 lecturers who were working on campus at Souphanouvong University in the academic year 2020-2021. However, only the respondents who taught online during the pandemic were included for compiling the results. Thus, the population consisted of 99 lecturers (29.11%). The research instrument was an online questionnaire through Google Forms with 16 closed and open-ended questions. The SPSS program version 20 was used to calculate all the data. Analysis of data on the type of ICT applications applied by the lecturers showed that 76.0% applied WhatsApp, 71.0% applied Zoom, 51.5% applied Facebook Groups, 29.3% applied Google Classroom and Google Meet, and only 6.0% applied YouTube videos. Results on the types of problems experienced by lecturers were as follows: 97.0% of the respondents pointed out that the internet was slow; 50.5% said that their computers were not working properly or some had no computers; 49.5% said that they had difficulties with online assessment; 44.4% said they had a trouble with recording videos of their teaching and creating an online classroom; and 41.4% said that they were confused with using applications to teach online.

Keywords: *ICT applications, COVID-19 pandemic, teaching-learning online*

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1. Introduction

Coronavirus-19 (COVID-19) has extended to nearly all countries around the world and it has affected all aspects of society and human life. It forced many countries into lockdown, and all aspects of activities were closed for a long period of time. People also stayed at home to stop the pandemic, which

caused the economic income of many countries to drop and killed nearly five million people (Worldometer, 2021, updated on 10 September 2021). During the lockdown, most people changed their work systems to maintain their effectiveness of work. Working from home systems and technology tools, especially ICT applications, were provided and adapted to

appropriate fields. However, the new types of working systems, such as working digitally, were very difficult for lower-income and middle-income countries which were not prepared, did not have technology completely established and were deficient in the practical fundamentals of ICT applications (Zarei & Mohammadi, 2021).

Moreover, developing countries still lack sufficient infrastructural facilities and competent human resources, they face socio-economic challenges, and adoption of adequate ICT tools is not up to the mark (Banday et al., 2013). Laos is a developing country in which technology is still lagging behind. However, the national policy of using ICT in Laos includes encouragement and support for developing the basic infrastructure of information technology. It also provides a budget to develop the use of ICT for social and economic development within all government services and facilities (Lao National Assembly, 2016).

The COVID-19 outbreak has impacted all levels of education and caused problems for lecturers and students around the world. It forced more than 191 countries to close schools. Due to the closure of schools, the education system, lecturers and schools were required to transform the traditional teaching-learning method from face-to-face in class to an online teaching-learning method at varying levels (UNESCO, 2021). Online teaching-learning was the best option to ensure the epidemic did not spread. So, ICT applications have come to play a more significant role in the field of education as e-learning, and students can learn any time anywhere. Thus, ICT and education can work well together (Kaware & Sain, 2015). To implement an online teaching process, lecturers should have skills in using ICT applications for applying online teaching and administration. Furthermore, teachers should be facilitators for the learners, and learners could take more

responsibility for their own learning, as a student-centered paradigm and ICT could provide powerful tools to support them (Kingsley & Patience, 2019).

Teaching-learning in Laos during the pandemic tried to transform to an online system by using ICT applications. On the occasion of opening the new academic year 2021-2022 online, the Minister of Education and Sports, Associate Professor Dr. Phut Simmalavong, stated that each level of education must develop and prepare for the new way of teaching-learning online because the situation was quickly changing and it is unpredictable when the situation would be back to normal. Dr. Somphone Khanthavong, the dean of the Faculty of Architecture at the National University of Laos, Dr. Sithane Soukhavong, the dean of the Faculty of Education at the National University of Laos, Dr. Vongpasith Chanthakhoun, the dean of the Faculty of Agriculture and Forestry at Souphanouvong University and other participants in the online conference on Teaching-Learning of Higher Education in the Era of COVID-19, held through Zoom on 01 September 2021, also shared information about their implementation of online teaching.

Souphanouvong University also allowed their lecturers to use ICT applications to teach online in response to such an unprecedented situation. Therefore, the researchers were interested in conducting this research to find out what was occurring. In particular, the objectives of this research were: 1) to find out the applications lecturers used in online teaching and 2) to determine the problems of lecturers in using ICT applications in online teaching.

2. Material and Methods

2.1 Research method

The quantitative research method was employed in this study through Google forms to collect all data from the population.

2.2 Instrument

This study used a questionnaire as the

instrument. The questionnaire was adapted from related previous research (Ghavifekr et al., 2016; König et al., 2020; Mishra et al., 2020; and Wisanti et al., 2021) by the research team, and it was checked by experienced lecturers to make sure it was relevant to the objectives of this research. It included 16 closed and open-ended questions which included personal information and the problems of using ICT applications to teach students online. All of the answers were anonymous.

2.3 Population

The researchers planned to survey the population of lecturers who were teaching online at Souphanouvong University, but this could only be determined by contacting all of the lecturers.

There were 428 lecturers of six different faculties, offices, libraries, institutes and centers at Souphanouvong University in the academic year 2020-2021. However, 86 lecturers were upgrading their qualifications domestically or overseas, and 2 lecturers were working in rural areas, so 340 lecturers were contacted. The researchers sent the permission letter from the dean of the Faculty of Education and the link to the online questionnaire form to the staff who worked in each faculty and office by WhatsApp application online with the explanation of the purpose for collecting the data. Then, the staff in charge of this work forwarded the file with the permission, link to the online questionnaire and the explanation message to the WhatsApp group of their faculties or offices for the lecturers to fill out the form. The participants were given a week to respond.

The number of respondents who replied was 133 (39.1%) of the total of 340 lecturers on campus. Of those who replied, there were 99 lecturers who organized online classes and they comprised the population included in the data calculation. Table 1 shows how the population was derived.

2.4 Data analysis

The study applied the SPSS program (version 20) to calculate the percentage of

answers to each question from the questionnaire to determine the applications lecturers used in online teaching and the problems lecturers had in using ICT applications in online teaching.

3. Results

With regard to the data analysis, the results are shown below.

Table 2 shows the main applications that lecturers used in online teaching. Some lecturers used different applications to teach, so they chose more than one application that was relevant. These were WhatsApp (76.0%), Zoom (71.0%), Facebook Groups (51.5%), Google Classroom and Google Meet applications (29.3% each), and YouTube videos (6.0%), respectively. Applications used by less than 5.0% of the lecturers were Line, Ding Talk and others.

Table 3 shows that the main problems that lecturers found in using ICT applications for online teaching were slow internet (97.0%), problems with computers (50.5%), problems of organising online assessment (49.5%), problems of recording teaching videos and creating online classes (44.4% each), and being confronted with trouble in using applications to teach online (41.4%). Only 2.0% of the lecturers did not have any problems in using ICT applications in online teaching.

4. Discussion

With regard to the first objective, to find out the ICT applications used by lecturers, shows that lecturers used WhatsApp, Facebook Groups, and Google Classroom, respectively, to communicate with and send assignments to their students. In addition, the lecturers used Zoom and used Google Meet for teaching online classes. This finding was similar to the research of Mishra et al. (2020) at Mizoram University in India. They indicated that the WhatsApp application was used by almost all

lecturers to send assignments to their students. Furthermore, 32.0% of them used Google Classroom and 45.0% used Zoom or Google Meet for teaching online classes.

With respect to the second objective of this research, to determine lecturers' problems in using ICT applications in online teaching, the results show similar findings to many other studies. König et al. (2020) undertook research among early career teachers in Germany about adapting to online teaching during COVID-19 school closure. They found that only 30% of the teachers provided online lessons digitally, and only 20% conducted assessment online. Moreover, teachers had limited access to teaching materials during lockdown, but those who were trained in searching for online teaching materials may have been better able to provide support for their students. In effect, the COVID-19 outbreak situation changed the school's teaching and learning process as a fundamental ICT transforming process. Therefore, König et al. (2020, p. 618) concluded that "it will be crucial to provide learning opportunities in professional development and in training for future teachers". Based on the data from this research, it shows that although the situation was slightly better in comparison, 44.4% of the lecturers had problems with using applications to record their teaching videos and did not know how to create online classes, and 41.4% did not understand well how to use applications to teach online. In addition, 49.5% of them had problems undertaking assessments online.

Research by Wisanti et al. (2021) showed that among junior high and high school science teachers in Indonesia, quite a high percentage (77.4%) of teachers tried to provide good material as slide presentations, discussion and

learning evaluation online to teach optimally. However, similarly to this research, they still faced technical aspects as the biggest problem. This included 45.5% of the Indonesian teachers lacking application operating skills and 17.7% having challenges in recording videos. They also found that for 42.4% of the teachers, the greatest difficulty for online teaching and learning was Internet access. Task assignments and learning evaluation also caused difficulties.

Bouasangthong et al. (2021) undertook research on challenges in lecturer effectiveness in teacher education institutions in Lao PDR. They stated that the lecturers' use of ICT was very limited, especially using ICT to make online lessons or to record videos of their online teaching through Zoom, Google Meet, Microsoft Teams and other applications. This was because the lecturers do not have enough technical knowledge to utilize ICT in online teaching. This was also indicated by a number of other researchers, both prior to or during the COVID-19 pandemic (Bhuasiri et al., 2012, Abdel-Gawad et al., 2015, and Alqahtani & Rajkhan, 2020, as cited by Zarei et al., 2021; Mahyoob, 2020). At the 2021 UNESCO-KEDI Asia-Pacific Regional Policy Seminar on 21 September 2021, Mr. Chanthala Philomsack stated that "internet connection was the major problem for online teaching and learning in Laos and the lecturers mostly taught offline. Moreover, there was a lack of ICT equipment and it needed to be provided for lecturers and students". His statement was confirmed in this research, where it was found that 97.0% of the respondents had a problem with a slow internet connection, 50.5% had problems with lack of a computer or computer equipment, and 47.0% said that students did not understand how to use ICT in e-learning.

The results showed a similar problem in other developing countries as well. Based on research by Ghavifekr et al. (2016) of secondary school teachers in Malaysia, 33% thought that internet-connected computers and speed were always insufficient, 9% that the number of laptops/notebooks was sometimes insufficient, 10% lacked ICT skills, 44% had insufficient technical support, and 23% thought that it was difficult to integrate ICT use into the curriculum. In connection to that, Moralista and Oducado (2020), who undertook research on academic staff perception of online education during the COVID-19 pandemic at a state college in the Philippines, found that only 14.8% found the internet at their faculty had a stable connection.

However, these research results were quite different to research undertaken in developed countries, such as König et al (2020), GEW Gewerkschaft Erziehung und Wissenschaft (2020, 26) and Eickelmann et al. (2020, 14), the latter two as cited by König et al. (2020). These studies found that nearly 50.0% of the teachers used ICT teaching every day at school, so they already had software resources and were familiar with their use in online teaching when school closures began. Therefore, adapting to online teaching during school lockdown was not a major challenge for teachers.

4. Conclusion

This research aimed to identify the problems of lecturers at Souphanouvong University in using ICT applications for online teaching during the COVID-19 pandemic and to find out the applications they used for online teaching. Laos is one of the developing countries in which technology infrastructure is still lagging and is causing a barrier to effective online teaching. In the past, education activities

have been mostly used in a traditional way through face-to-face implementation, but the era of the COVID-19 pandemic forced the university lecturers to make a quick change from a face-to-face teaching-learning method to a distance teaching-learning process. Many problems occurred at the beginning of the online teaching procedure because it required high technology infrastructure, enough ICT equipment with facilities to use it, and mastering knowledge of using ICT applications. However, the internet was slow, computers had problems, there was a lack of ICT equipment to apply to online teaching, and the lecturers were not trained on how to teach online. So that these do not become major problems for the quality of education, it is necessary to begin solving them to ensure quality higher education in Laos in the long run.

5. Conflict of Interest

On behalf of the researchers, I indicate that the information contained in this research is our own research, which has not been copied from anywhere else. There is no inconsistency of interest to either party, and it is not conducive to either party. In the event of any breach, we are personally responsible.

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Table 1: The number of respondents and their working places

N=99

Working places	Total number of lecturers in SU	Total of Respondents	Respondents who taught online
Faculty of Education	65	27	27
Faculty of Economics and Tourism	60	20	14
Faculty of Agriculture and Forestry	56	15	12
Faculty of Engineering	49	14	14
Faculty of Architecture	31	10	10
Faculty of Languages	40	16	16
Instruction Office	9	2	2
Library	9	2	2
Academic Office	13	0	0
Personal Organization Office	10	2	0
Foreigner Cooperation Office	12	5	2
Financial Office	10	2	0
Office of Research and Academic Services	8	2	0
ICT Center	9	3	0
LKBIC Center	5	1	0
Kongzi Institute	4	1	0
Administration Office	20	6	0
Audit Office	6	1	0
Student Management Office	12	4	0
Total	428 (of whom 340 were currently on campus)	133	99

Table 2: The different ICT applications used by lecturers to teach online

Applications of online teaching	Percentage (%)
Zoom	71.0
Google Classroom	29.3
Google Meet	29.3
Facebook Groups	51,5
WhatsApp	76.0
WeChat	2.0
Line	3.0
YouTube Video	6.0
Ding Talk	1.0
Others	3.0

Table 3: Problems faced by lecturers in using applications in online teaching

Problems	Percentage (%)
Internet was slow	97.0
Problems with computer or lack of personal laptop	50.5
Didn't understand well how to use applications to teach online	41.4
Didn't know how to record their video teaching	44.4
Didn't know how to create online classes	44.4
Didn't know how to organise assessment online	49.5
There was not any problem	2.0
Other problems	1.0