

Situations, Problems and Guidelines for Developing Online Teaching and Learning Management under the Pandemic of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University

Sumalee Sriputtarin

Assistant Professor

Faculty of Education Nakhon Phanom University

Nakhon Phanom, Thailand 48000

Jaruwan Kheawnamchum

Lecturer

Faculty of Education Nakhon Phanom University

Nakhon Phanom, Thailand 48000

Kanlayanee Muangthai

Lecturer

Faculty of Education Nakhon Phanom University

Nakhon Phanom, Thailand 48000

Abstract

The purposes of this research were to (1) study and compare online teaching and learning management, (2) study problems of online teaching and learning management, and (3) study guidelines for developing online teaching and learning management under the epidemic situation of the Coronavirus 2019. The samples were 125 lecturers and students of Faculty of Education, Nakhon Phanom University who enrolled for online courses during March - May 2020, and they were selected by stratified random sampling. The instrument used was a questionnaire. The statistics used were percentage, mean, standard deviation, t-test (Independent Samples), and one-way analysis of variance.

The results found that overall online teaching and learning management under the epidemic situation of the coronavirus 2019 showed overall and individual aspects at the high level. The hypothesis was tested using one-way analysis of variance. Overall, it was found that there was a statistically significant difference at the .05 level.

Keywords: *Coronavirus 2019, Online Teaching and Learning Management, Faculty of Education, Nakhon Phanom University*

Introduction

The coronavirus 2019 *pandemic* is a difficult time affecting people around the world. At the same time, it challenges the ability of all sectors to cope for managing various businesses successively (Withat Podcharoenphon, et al., 2020:44). The epidemic of the coronavirus 2019 had greatly affected the education system since the virus began to spread in China at the end of 2020 until the present. NESCO reports that governments of 191 countries around the world declared announcement of school closures across the country more than 1.5 billion learners are affected, or more than 90 percent of all learners. The urgent measures taken by many governments to prevent the spread of the virus are measures to close the city due to the semi-lockdown and social distancing measures, so schools need to be closed as well to reduce the spread of the virus (Pongthat Vanichanan, 2020: online). However, research looking at the effects of school closures in China, Hong Kong and Singapore, along with past lessons from the spread of the SARs, indicated school closures alone have little effect on reducing the number of infections compared to other measures. Moreover, the world bank also expressed concern over the situation of school closures that will result in most students losing learning opportunities, especially students in poor families because they do not have enough income to support their child's further education. At worst, school closures could push these students out of the education system. This will cause a detrimental effect on the life of the child in the long run. Therefore, what is needed is to establish guidelines for opening schools so that children can go to school again in accordance with the severity of the situation along with strictly implementing public health measures and social measures in schools. For Thailand, the epidemic situation occurred during the school holidays by the beginning of April. The Cabinet approved the postponement of the first semester to July 1, 2020, so Thailand has the opportunity to review lessons in order to prepare for a new teaching-learning approach that is in line with epidemic prevention measures along with preparing various measures to prevent learners from being affected by changing learning styles (Phusima Pinphosinwat, 2020 : online).

From a survey of 678 teachers from schools in 67 provinces regarding the readiness of online teaching and learning, and the need for support from schools or government found the most preferred platforms for teachers were Facebook 51.8%, Line 49%, Google Classroom 38% and YouTube 31.1%. The results revealed 11.5% of teachers could not be unable to teach online, whereas 58.2% of teachers were moderately prepared. On the opening day of the semester, July 1, teachers assessed the readiness of the students found that 45% of students studied online, but the remaining 55% likely were not due to lack of computers, internet and smart phones. The top3 things that teachers would like schools and government to support were (1) workshops for managing online teaching, (2) budgets for creating online lessons, and (3) building infrastructure for home high speed internet and communication equipment for all students. For EDUCA (EDUCA, 2020: online) asking the opinions of 817 teachers and educational personnel, it was found that the top 3 important skills or knowledge that teachers needed were (1) the production of learning media 29.91%, (2) developing new skills for children 17.09%, and (3) learning management 13.06%. The top three things that teachers need most are (1) teaching tools such as computers 71.11%, (2) Internet systems 57.28%, and (3) teaching manuals 42.84%. Due to the epidemic of the Coronavirus 2019, teaching management of the Faculty of Education in March 2020 onwards must refrain from managing face to face classes in the classroom, changing to online teaching according to the policy of the government, Nakhon Phanom University and the Faculty of Education, which the aforementioned change was a sudden change. Some teachers and students have not yet been able to accept or learn enough about full-scale online teaching. This may cause problems in online teaching management or inadequate efficiency and effectiveness. Therefore, the research team as an instructor of the Faculty of Education, Nakhon Phanom University was interested in conducting research on the topic “Situations, Problems and Guidelines for Developing Online Teaching and Learning Management under the Epidemic Situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University” to use the information acquired to develop effective online teaching and learning management to be more effective.

This research aims to (1) study and compare online teaching and learning management under the epidemic situation of the Coronavirus 2019 classified by gender and status, (2) study the problem of online teaching management under the epidemic situation of the Coronavirus 2019, and (3) study the guidelines for the development of online teaching and learning management under the epidemic situation of the Coronavirus 2019 for the Faculty of Education, Nakhon Phanom University.

Conceptual framework and hypothesis

Research on “Situations, Problems and Guidelines for Developing Online Teaching and Learning Management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University”, the researcher uses the conceptual framework of the research as follows:

1. Preparation before managing online teaching and learning
2. Online teaching and learning management
3. Submitting assignments and doing online exercises
4. Online measurement and evaluation

Research hypothesis

1. Male and female students and teachers have their different opinions on learning and teaching management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University.
2. Students and teachers with different statuses have different opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University.

Research method

1. Population and sample

Population consisted of 265 graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers classified as 180 graduate certificate students in teaching profession, 60 graduate students in Department of Educational Administration and Development, and 25 lecturers.

The sample group consisted of 125 graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers. The sample size was determined using the percentage criteria. The samples were obtained by stratified random sampling, classified as 54 graduate certificate students in teaching profession, 48 graduate students in Department of Educational Administration and Development, and 23 lecturers.

2. The variables studied

2.1 Independent variables consist of

2.1.1 Gender

2.1.1.2 Male

2.1.1.3 Female

2.1.2 Status

2.2.1.1 Graduate certificate students in teaching profession

2.2.1.2 Graduate students in Department of Educational Administration and Development

2.2.1.3 Lecturers

2.2 Dependent variables were opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University.

3. Research instrument

The instrument used in the collection was a questionnaire divided into 3 parts.

Part 1 dealt with the status of the respondents and information about the use of online programs in teaching and learning. It was a check list style.

Part 2 was a questionnaire about organizational factors and online teaching and learning management.

Part 3 was an open-ended questionnaire asking about problems and guidelines for developing online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University. The researcher brought the questionnaire to 3 experts to check the accuracy of the content. It was found that the consistency of the expert opinion consistency index questionnaire was between .60 – 1.00 and then tried out to find the discrimination and reliability with teachers and students of the Faculty of Education, Nakhon Phanom University who were not a sample group of 30 students. The results were analyzed to determine the discrimination to classify each item, and analyzed for the reliability by using the alpha coefficient (α – Coefficient) according to the Cronbach method. It was found that the questionnaire had the discrimination between .23 – .71, and the reliability was .97 which was regarded as having high confidence to be applied to the sample (Somnuk Pattiyatani, 2017: 221).

4. Data collection

The researcher collected data from a sample of 125 teachers and students who submitted 125 online questionnaires and received 125 refunds, or 100%.

5. Data analysis

The researcher took all returned questionnaires which were complete for data analysis by computer program as follows:

Part 1 The status of the respondents and information on the use of online programs in teaching and learning. Data were analyzed by frequency and percentage.

Part 2 Analyzed the data by finding the basic statistical values, i.e. mean and standard deviation, and compared them with criteria based on the concept of Boonchom Srisa-at (2017: 82) and interprets them according to the specified criteria as follows:

Average 4.51-5.00 means the opinion is at the highest level.

Average 3.51-4.50 means the opinion is at the high level.

Average 2.51-3.50 means the opinion is at the moderate level.

Average 1.51-2.50 means the opinion is at the low level.

Average 1.00-1.50 means the opinion is at the lowest level.

Part 3 Problems and guidelines for developing online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University were presented the data in the form by finding the frequency and percentage accompanying descriptive analysis.

Part 4 Comparison of opinions about online learning and teaching management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by gender of lecturers and students. The hypothesis was tested using an independent sample t-test.

Part 5 Comparison of opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by the status of lecturers and students. The hypothesis was tested using one-way analysis of variance.

6. Statistics used in research

The researcher used the statistics to find the instrument quality that consisted of (1) the statistics for checking the content validity of the research instrument using the expert opinion consistency index, (2) find the discrimination of classification by using a simple correlation coefficient between item score and total score (Item Total Correlation), (3) The reliability of the questionnaire was determined by using the formula for finding the alpha coefficient using Cronbach's method. The basic statistics consisted of percentage, mean, and standard deviation. The statistics used to test the hypothesis were independent sample t-test and one-way analysis of variance.

Conclusion

The results of the research found that overall online teaching and learning management under the epidemic situation of the coronavirus 2019, Faculty of Education, Nakhon Phanom University showed overall and individual aspects at the high level. The aspect with the highest average was the submission of work and doing online exercises ($\bar{X} = 4.03$), followed by preparation before teaching online ($\bar{X}=4.00$). The aspect with the lowest average was online teaching management ($\bar{X} =3.96$). The details are shown in Table 1.

Table 1 showed mean and deviation of the opinions of students and lecturers about online teaching and learning situation management. Overall online teaching was found that it was at the high level in overall and in individual aspects.

No.	Item	Opinion Level		
		\bar{X}	S.D.	Interpretation
1	Preparation before managing online teaching and learning	4.00	.67	High
2	Online teaching and learning management	3.96	.77	High
3	Submitting assignments and doing online exercises	4.03	.69	High
4	Online measurement and evaluation	3.97	.70	High
	Total	3.99	.67	High

Comparison of opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by gender between male and female, the hypothesis was tested by using an independent sample t-test. Overall and individual aspects showed no difference. The details are shown in Table 2

Table 2 showed a comparison of opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by gender between male and female.

No.	Item	Gender				t	P
		Male		Female			
		\bar{X}	S.D.	\bar{X}	S.D.		
1	Preparation before managing online teaching and learning	4.03	.74	3.99	.64	.26	.79
2	Online teaching and learning management	4.02	.98	3.92	.64	.55	.58
3	Submitting assignments and doing online exercises	4.03	.92	4.02	.55	.03	.97
4	Online measurement and evaluation	4.07	.85	3.92	.60	.97	.34
	Total	4.03	.84	3.97	.56	.47	.64

Comparison of opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by status among graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of Education. The hypothesis was tested using one-way analysis of variance. Overall, it was found that there was a statistically significant difference at the .05 level. Considering in an individual aspect, it was found that the aspects of preparation before managing online teaching and learning and online teaching and learning management revealed a statistically significant difference at the .05 level. The other aspects showed no difference. Details are shown in Table 3.

Table 3 showed a comparison of opinions about online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by status among graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of the Faculty of Education in overall and in individual aspects.

Item	Source of variance	SS	df	MS	F	P
Preparation before managing online teaching and learning	Between Groups	3.07	2	1.54	3.51*	.03
	Within Groups	53.4	122	.44		
	Total	56.4	124			
Online teaching and learning management	Between Groups	4.74	2	2.37	4.19*	.02
	Within Groups	68.94	122	.57		
	Total	73.68	124			
Submitting assignments and doing online exercises	Between Groups	2.02	2	1.01	2.13	.123
	Within Groups	57.87	122	.47		
	Total	59.89	124			
Online measurement and evaluation	Between Groups	2.82	2	1.41	2.97	.06
	Within Groups	57.88	122	.47		
	Total	60.70	124			
Overall	Between Groups	3.03	2	1.52	3.55*	.03
	Within Groups	52.06	122	.43		
	Total	55.09	124			

*Statistically significant at the .05 level

In order to see the difference in pairs, the researcher, therefore, compared it by using the method of Scheffe'. Overall found that the students of the master's degree in Educational Administration and Development had higher opinions about the online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University than the lecturers of the Faculty of Education. It was statistically significant at the .05 level, while the other pairs were not different. When considering each aspect, it was found that master's degree in Educational Administration and Development had higher opinions about preparation before managing online teaching and learning under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University. It was statistically significant at the .05 level, while the other pairs were not different. The details are shown in Table 4-6.

Table 4 showed the test results of the average pairs according to the opinions of graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of Education about the online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University than the lecturers of the Faculty of Education in overall aspects.

Status	\bar{X}	Graduate certificate students in teaching profession	Graduate students in Department of Educational Administration and Development	Lecturers of the Faculty of Education
		3.99	4.15	3.67
Graduate certificate students in teaching profession	3.99	-	.15	.32
Graduate students in Department of Educational Administration and Development	4.15		-	.48*
Lecturers of the Faculty of Education	3.67			-

*Statistically significant at the .05 level

Table 5 showed the test results of the average pairs according to the opinions of graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of Education about the online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by status in aspect of preparation before managing online teaching and learning.

Status	\bar{X}	Graduate certificate students in teaching profession	Graduate students in Department of Educational Administration and Development	Lecturers of the Faculty of Education
		4.01	4.17	3.68
Graduate certificate students in teaching profession	4.01	-	.16	.32
Graduate students in Department of Educational Administration and Development	4.17		-	.49*
Lecturers of the Faculty of Education	3.68			-

*Statistically significant at the .05 level

Table 6 showed the test results of the average pairs according to the opinions of graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of Education about the online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by status in aspect of online teaching and learning management.

Status	\bar{X}	Graduate certificate students in teaching profession	Graduate students in Department of Educational Administration and Development	Lecturers of the Faculty of Education
		3.95	4.16	3.56
Graduate certificate students in teaching profession	3.95	-	.21	.39
Graduate students in Department of Educational Administration and Development	4.16		-	.60*
Lecturers of the Faculty of Education	3.56			-

*Statistically significant at the .05 level

2. The results of the problem analysis of online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University which showed the top five aspects with the most frequencies were (1) preparation before managing online teaching and learning included the knowledge base of online teaching and learning, internet readiness and the readiness of materials and equipment for online teaching and learning; (2) online teaching and learning management included the speed of the internet, home environment and weather conditions such as rain, thunder, individual online browsing problems; (3) submitting assignments and doing online exercises included the ability to search for information to prepare individual student exercises, the duration of doing exercises does not correspond to the amount of assignments, no consultant during the exercises; (4) measurement online assessment included too short duration for the exam, the exam results were not immediately known, the discrepancy in the assessment measurement was greater than that of the classroom model.

3. The results of an analysis of the guidelines for developing online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University found that (1) preparation before managing online teaching and learning, high speed internet for lecturers and students should be supported, high-performance materials and equipment should be supported for lecturers and students for online teaching and learning; (2) online teaching and learning management should be organized for attending the class on time, take time to learn concisely and pertinently, using a variety of approach in online teaching and learning including multimedia, lecturing, and using PowerPoint; and (3) submitting assignments and doing online exercises for submitting assignments and doing online exercises should assigned in adequate and reasonable time for completeness, the results of the exercises should be reported individually, all questions should be answered both in the class and individually, individual assessment results should be communicated to students, a variety of measurement formats should be used and allow appropriate timing to complete the test.

Discussion

The research was discussed as follows:

1. The situations of online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University were at the high level in overall and in individual aspects. The aspect with the highest average was submitting assignments and doing online exercises followed by preparation before organizing online teaching. The aspect with the lowest average was online teaching and learning management.

Comparison of online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by gender between males and females found no difference. This maybe the reasons in today's world the accessibility of information and communication technology including digital technology that everyone in all genders and ages can easily access and is a fundamental factor in learning and communicating in today's world. As for the results of the comparison of online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University classified by status between graduate certificate students in teaching profession, graduate students in Department of Educational Administration and Development, and lecturers of the Faculty of Education revealed a statistically significant difference at the .05 level. Considering in individual aspect, it was found that the aspects of preparation before managing online teaching and learning and online teaching and learning management were a statistically significant difference at the .05 level. The graduate students in Department of Educational Administration and Development had higher opinions than the lecturers of the Faculty of Education. The other aspects were not different. This may be due to the lecturers have used information and communication technology in teaching and learning. There were online teaching and learning, online assignments are integrated, as well as previous online assessments and assessments such as using the classroom application, using Meet and Zoom programs, allowing students to study online normally without any problems or novelties. On the other hand, the lecturers of the Faculty of Education have a wide range of qualifications and different digital technology skills that made many lecturers unable to adapt their teaching during the epidemic situation of the Coronavirus 2019. They were unable to access applications for online teaching and learning management well enough. However, in order to solve teaching problems during work from home, many lecturers communicated and taught students through Facebook, Line and E-mail, etc. This was consistent with the research of the EDUCA section (EDUCA, 2020: Online) that showed the opinions of teachers and educational personnel which found that the top 3 important skills or knowledge that lecturers needed were the production of learning materials, developing new skills for children and learning management. While the top 3 things that teachers need the most are teaching tools, internet system and instruction manual. As for Phusima Pinphosinwat (2020: online) surveyed the opinions of teachers found that on the opening day of the upcoming semester, on July 1, 2020, teachers assessed the readiness of the students they teach and found that 45% of students were able to study online, but the remaining 55% were probably not ready due to lack of computers, internet and smart phone. The top3 things that teachers would like schools and government to support were (1) workshops for managing online teaching and learning, (2) budgets for creating online lessons, and

(3) building infrastructure for high-speed internet and communication equipment for all students. This is consistent with the research of Withat Podcharoenphon, et al. (2020) who had researched on readiness for online teaching and learning under the epidemic situation of the Coronavirus 2019. The results of the study showed that some teachers were not ready to manage online teaching and learning. They estimated that many students did not have access to online teaching and learning systems.

It also called on for help from schools and the government in organizing workshops on how to manage online classes urgently including providing high speed internet and communication equipment for all students.

2. Problems in online teaching and learning management under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University revealed that (1) preparation for online teaching and learning management was the foundation of knowledge in online teaching and learning, internet readiness and the readiness of materials and equipment for online teaching and learning; (2) online teaching and learning management was the speed of the internet, home environment and weather conditions such as rain, thunder, individual online browsing problems; (3) submitting assignments and doing online exercises was the ability to search for information to prepare individual student exercises, the duration of doing exercises did not correspond to the amount of work, and there was no mentor during the exercise; and (4) online measurement and evaluation was that the time spent doing the test online was too short, the results of the exam were not immediately known, the discrepancy in the measurement and assessment was greater than that of the classroom model. This may be due to problems caused by not being prepared for the epidemic situation of the Coronavirus 2019 which were different from the original teaching in normal classrooms. For the new normal, it was an online teaching and meeting, forbidden to meet, and studying at home. Thus, making preparation in various fields was not good enough, however, and both lecturers and students had to find channels to communicate and learn as much as possible in the subjects according to the timetable. However, in everyday life, lecturers and students use Facebook and Line regularly in communication. Therefore, they can use this channel to communicate with each other. This is consistent with the research by Phusima Pinphosinwat, (2020: online) and Withida Promwong, et. al (2021) that surveyed teachers' opinions and found that the platforms that teachers choose the most in order are Facebook, Line, Google Classroom and YouTube respectively. It was found that 11.5% of teachers were unable to teach online, and 58.2% of teachers had moderate readiness.

3. Guidelines for developing online teaching and learning under the epidemic situation of the Coronavirus 2019, Faculty of Education, Nakhon Phanom University revealed that (1) preparation for online teaching and learning management should be organized for lecturers and students to be able to use it before using in teaching and learning, supporting high speed internet for lectures and students, supporting high-performance materials should be provided to lecturers and students for online teaching and learning; (2) online teaching and learning management should be organized and attended the online classroom on time, taking time to learn concisely and pertinently, using a variety of media in online teaching and learning including multimedia, lectures, and PowerPoint; (3) submitting assignments and doing online exercises should be adequate and reasonable time to complete online exercises. The results of the exercises should be reported individually, and also questions should be answered both as a whole in the class and individual; (4) online measurement and assessment should be communicated to students, scores should be reported online immediately after the test or practice session. A variety of measurement formats should be used and allow appropriate timing to complete the test. From the above development guidelines, the Faculty of Education, Nakhon Phanom University has been developed and prepared to manage teaching and learning more efficient and effective. And the crisis from the epidemic situation of the Coronavirus 2019 will become an opportunity for lectures and students to learn through online classrooms and use digital technology usefully in teaching and learning in the end.

Suggestion

1. Suggestions for applying the research results

1.1 From the research, it was found that online teaching and learning management revealed the lowest average. Thus, the lecturers of the Faculty of Education, Nakhon Phanom University should be promoted and supported in all disciplines. The lecturers and students should be organized online teaching and learning, organized training to develop knowledge and skills in digital technology so that the lecturers can manage online teaching effectively with regular supervision, monitoring and evaluation for students effectively.

1.2 The Faculty of Education, Nakhon Phanom University should prepare the readiness of materials, equipment and high-speed internet system to provide services to students and lecturers for easy access, faster, and more adequate.

2. Suggestions for the next research

2.1 An interested person should research situations, problems and guidelines for developing online teaching and learning management of education for kindergarten, primary and secondary students.

2.2 There should be research on the format that is suitable for online teaching and learning management under the epidemic situation of the Coronavirus 2019 in the management of education at various levels.

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