

Students Behaviors and Factors Affecting Online Learning During the COVID-19 Situation of Students in Saun Sunandha Rajabhat University

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Abstract: The objectives of this research paper are study online learning behaviors, the success factors of online learning and perspectives on online learning during the Covid-19 situation. It is survey research. The population is 127 students of the Faculty of Science and Technology, Suan Sunandha Rajabhat university. The sample group enrolled in microbiology courses, semesters 1 and 2 of 2020 academic year. Research tool is a questionnaire. Data are analyzed by finding the average, percentage and standard deviation. The results show that online learning behavior during the Covid-19 situation are on moderate levels. Overall academic success on study is also at moderate levels. Most students have no difficulty using technology due to their familiarity but the main problem lies in the access to the Internet signal. These students are not satisfied with online learning, so the help of teachers and related agencies can resolve student frustrations in order to make online learning in the future more efficient and to be favorite by learners.

Keywords: behaviors, COVID-19, factors, online learning

Received: September 29, 2021. Revised: October 17, 2022. Accepted: November 22, 2022. Published: December 31, 2022.

1. Introduction

The outbreak of coronavirus disease 2019 or COVID-19 disease that had spread to almost every country around the world caused so many infections. Public Health systems in those countries were unable to accommodate all of the patients, resulting in a large number of deaths. In addition to affecting lifestyle, health, society and economy, it also had an impact on education as well. According to UNESCO, the COVID-19 pandemic had forced more than 1.57 billion students from more than 188 countries, or 91.3% of global learners, to leave school and switched to different form of education outside the classroom. For the epidemic situation in Thailand was the same. As a result, educational institutions were unable to open as usual. Ministry of Higher Education, Science, Research and Innovation (MHESI), the government agency that supervises higher education, had issued surveillance measures against the spread of COVID-19. All universities were scheduled to stop normal teaching and adjust to online teaching by April 1, 2020. This modification required learning outcomes to be as effective as or close to classroom learning.

Online learning means studying with electronic devices that can be connected via the Internet, which can be studied anywhere and anytime. When the epidemic crisis occurs, online teaching through an application (Zoom, Google classroom, Google meet, Microsoft team, Google Hangouts, Skype, Line Video Call, YouTube live and Facebook live) is used to allow students to interact with teachers immediately. Text, images, audio, video and multimedia will be sent to learners through web browsers. There were many researches about online teaching during the coronavirus pandemic. From the study of Mohammad S. Shawaqfeh(2020), the results indicated that about 61.4% of the pharmacy students agreed on the transition into online education. It also indicated that 49.2% of the students had positive attitude on online learning. 34% of the students identified some barriers toward the provided online learning. Students also need for training on

how to receive online courses. Madziatul Churiyah's research (2020) found that teachers and schools still need to understand more about the essence of distance learning. students had less self-control. They could not control their distance learning activities. While research using A Demonstrate-Engage-Assess framework for online Practical teaching of Preclinical subjects, Amir MaroofKhan, 2021, found that 62%–80% of students were satisfied with online practical teaching. Students found learning like this more engaging, fun, and motivated to learn. The main perceived barrier to teaching in an online practical laboratory was the lack of face-to-face interaction, non-experience learning and adaptation to newer technologies. A study conducted by Maxine Esterhuyse and Brenda Scholtz (2015) indicated that 45% of e-learning projects in developing countries were total failures, 40% were partial failures, while only 15% were successful.

For Thailand, online-only learning is relatively new. This change has resulted in students having to adapt. Although technology is previously used to enhance the learning process, it is used in conjunction with classroom learning. Although it is a convenient study that can be accessed from anywhere at any time but studying is different from studying in the classroom. Teachers need to adjust the teaching style and assessment. Teachers can't easily control the classroom. This may make the student's learning efficiency less than studying in the classroom. Learners must be responsible for learning more than usual because there is no supervisor to closely supervise the learners. If learners have good learning behaviors, they will be successful in learning, resulting in good learning outcomes. The Faculty of Science and Technology Suan Sunandha Rajabhat University, normally managed teaching both theory and practice in laboratory. But due to the spread of COVID-19, teaching in laboratory could not be carried out. In order to avoid interruption of learning, the time required for practice had been changed to teaching theory with online learning in order to complete the operation according to the curriculum and students still had learning outcomes according to the subject objectives. The researcher

was interested in the problem of online learning. There were questions about the problem condition of online learning from interviews with sample groups of students of Faculty of Science and Technology, Suan Sunandha Rajabhat University, who studied microbiology subject. Students who are taught online had expressed a wide range of positive and negative opinions about online learning in terms of teachers, learners, lesson content and technology i.e., problems of the stability of the sound and image quality of video calls which caused by the Internet signal in each area of both students and teachers. These made learning difficult or sometimes caused stop teaching which affects students not be able to understand the lesson. Online learning took place in individual student accommodation. Therefore, the learning atmosphere were different from the normal study that held in the classroom at the university, where teachers were supervising teaching and could ask questions or discussed immediately when there were doubts or issues that need to be discussed. But when studied online at home, students were free to do whatever they wanted. Teachers could not able to control students. Based on the problems encountered, the researcher was interested in studying behaviors and success factors for online learning during the COVID-19 crisis as a guideline to improve learning via the Internet in parallel with classroom teaching in the future.

2. Research Objectives

1) *Study behavior of students of Faculty of Science and Technology, Suan Sunandha Rajabhat University, who studied microbiology subject by online learning*

2) *Study the relationship and ability to predict learning behaviors through the online system*

3. Method

This research was Descriptive Research.

3.1 Sample Group

127 science students (Faculty of Science and Technology, Suan Sunandha Rajabhat University) who enrolled in the first and second semesters of the 2020 academic year.

3.2 Research Variables

- Independent variables are course lessons in Microbiology.
- Dependent variables are attendance behavior and success factors of online learning in 4 areas: Teachers, Learners, Lesson Content and Technology

3.3 Data Collection

The researcher contacted sample group to clarify research objectives and made an appointment via Line program. Research data confidential without the contributor being identified. The findings were summarized as a whole which would not affect learning and assessment. The electronic questionnaire was designed on Google Forms and an invitation link for participating in the survey was shared via email and on social media of the sample group on the last week of the first and second semester (from 26 to 30 October 2020 and 26 to 30 April 2021). Daily reminders were given to increase the response rate of participants. The cover letter was presented on the first page of the electronic survey highlighting its importance and significance. Therefore, it promoted the cooperation of the respondents. 214 questionnaires were returned, representing 100 percentage of

all questionnaires. The questionnaires were checked for accuracy and completeness of the data and then analyzed.

3.4 Research Tools

It is a questionnaire consisting of 2 parts as follows

- Part 1 Personal Characteristics consist of age, class, year, cumulative grade point average, equipment and network that uses for online learning.
- Part 2 Assessment the Affecting Factors on Students' Learning Behavior. consist questions on online learning attitude, student adaptation and teaching behavior of teachers include physical environment and technology availability. The questionnaire is 5 levels Likert scale, positive and negative questions, 1-5 score from strongly disagree to strongly agree.

The student's learning behavior assessment form consist 80 questions, 10 questions of 8 items each as follows:

- Learning attitude
- Study motivation
- Scheduling time for studying
- Anxiety in studying
- Concentration and attention to study
- Data collection process
- Choosing the main theme and remembering the important content
- Techniques and equipment in studying
- Self-test Exam review and preparation
- Exam Preparation Strategies

Interpretation of the results divided from the average score to 5 levels as follows:

- Average score of 1.00-1.80 represents the least study behavior.
- Average score of 1.81-2.60 represents low level
- Average score 2.61- 3.40 represents moderate level
- Average score 3.41- 4.20 represents high level
- Average score 4.21-5.00 represents the most level

3.5 Data Analysis

The data from the questionnaire was analyzed by the program as follows:

- General data were analyzed by descriptive statistics such as percentage.
- Online learning behavior data were analyzed by descriptive statistics such as percentage, mean, standard deviation.
- The success factor of online learning Data were analyzed by descriptive statistics such as percentage, mean, standard deviation.

4. Results

The main objective of this research study is to find general attitudes among undergraduate students towards university distance learning amid the coronavirus (COVID-19) pandemic.

4.1 Sample Characteristics

The study sample consisted of 127 undergraduate students, 120 female and 17 males. All students participating in the survey were taking a virtual online course. 62.21% (n = 79) of the sample were aged 19-20, while 33.07% (n = 42) were aged 21-22. Most of the participants are females (n=117, 92.13%). The data showed in Table 1.

TABLE I. THE AMOUNT AND PERCENTAGE OF BASIC PERSONAL DATA

| Personal characteristics | Number | Percentage |
|--------------------------|--------|------------|
| Age | | |
| 19-20 | 79 | 62.21 |
| 21-22 | 42 | 33.07 |
| 23-24 | 6 | 4.72 |
| Gender | | |
| Female | 117 | 92.13 |
| Male | 10 | 7.87 |

4.2 Location of Domicile

From the data in Table 2, it can be seen that during the Covid-19 period, most of the students were in their domiciles. Some students consider staying in Dormitories during the online learning period due to sufficient internet network facilities, regardless of the limitations of human movement.

TABLE II. DISTRIBUTION OF THE NUMBER OF STUDENTS BASED ON DOMICILE DURING ONLINE LEARNING

| Zone | Number | Percentage |
|--------------------|--------|------------|
| North | 2 | 1.57 |
| East | 12 | 9.45 |
| West | 3 | 2.36 |
| south | 10 | 7.87 |
| Central | 35 | 27.56 |
| Northeast | 16 | 12.60 |
| Bangkok and nearby | 49 | 38.58 |

4.3 Supporting Infrastructure for Online Learning

The success of online learning cannot be separated from the availability of learning support such as the availability of stable Internet access and the device used to connect to internet with modern technology.

Table 3. showed the internet signal character. 70.08% (n = 89) reported that they had decent internet access, 23.62% reported that they had no proper access, while 16.54% (n = 21) reported that they had limited internet access via a mobile phone or device. Students commented that signal availability/strength is the main issue behind limited internet access and internet service considered too expensive for a regular online connection.

TABLE III. INTERNET SIGNAL CHARACTER

| Internet stability | Number | Percentage |
|--------------------|--------|------------|
| Very stable | 89 | 70.08 |
| Not stable enough | 30 | 23.62 |
| Unstable | 21 | 16.54 |
| Access device | | |
| 3 G | 11 | 8.66 |
| 4 G | 27 | 21.26 |
| 5 G | 89 | 70.08 |

From Table 4., determine qualified feeling of students to use a computer or other device for online learning, 80.31% of students felt they were qualified to use notebook for online learning. 10.24% of students reported being comfortable with tablet.

TABLE IV. TABLE TYPE STYLES

| Device usage | Number | Percentage |
|------------------|--------|------------|
| Desktop computer | 12 | 9.45 |
| notebook | 102 | 80.31 |
| tablet | 13 | 10.24 |
| Mobile phone | - | - |

4.4 Students' Learning Behavior

From the survey in Table 5., it was found that the student's overall learning behavior was at a moderate level, with an average of 3.2 (SD=.51). The highest mean was Techniques and equipment in studying with the mean was 3.43 (SD=.59). The lowest mean was anxiety in study. The mean value was 2.76, respectively, at a moderate level.

TABLE V. MEAN AND STANDARD DEVIATION OF STUDENT'S LEARNING BEHAVIOR IN EACH ASPECT

| Learning behavior | Mean (SD) | represents |
|---|------------|----------------|
| Learning attitude | 3.23 (.53) | moderate level |
| Study motivation | 3.39 (.45) | moderate level |
| Scheduling time for studying | 3.35 (.45) | moderate level |
| Anxiety in studying | 2.76 (.57) | moderate level |
| Concentration and attention to study | 2.95 (.44) | moderate level |
| Data collection process | 3.35 (.54) | moderate level |
| Choosing the main theme and remembering the important content | 3.11 (.49) | moderate level |
| Techniques and equipment in studying | 3.43(.59) | moderate level |
| Self-test Exam review and preparation | 3.31 (.63) | moderate level |
| Exam Preparation Strategies | 3.12 (.42) | moderate level |

4.5 Students' Perceptions on Online Learning

78.74% of students reported being comfortable with digital communication, while 17.32% felt they were having difficulty communicating digitally.

68.5%, large number of students, are less satisfied and dissatisfied with online learning during COVID-19. There are many factors that affect this perception. The limited space for interaction between students and teachers in online learning decreases students' interest in participating in learning. Some students stated that they lacked understanding of lecture material that was not directly explained by the teacher.

When comparing online learning with traditional learning, most students reported that online learning was significantly different from traditional learning, while the rest felt that online learning and learning is slightly different. Only 23.62% of students felt that online learning was more motivating than traditional learning. While most students (76.38%) were against the idea that online learning is more motivating than traditional learning.

TABLE VI. FOCUSING ON ONLINE LEARNING SUCCESS DURING THE COVID-19 PANDEMIC D

| Course characteristics | Mean (SD) | represents |
|------------------------|------------|----------------|
| Theoretical section | 2.70 (.53) | moderate level |
| Practical section | 2.53 (.45) | low level |

TABLE VII. ATTITUDE REFLECTION WITH ONLINE LEARNING

| Course characteristics | Number | Percentage |
|------------------------|--------|------------|
| Difficulty | | |
| Never | 100 | 78.74 |
| Sometimes | 22 | 17.32 |
| Always | 5 | 3.94 |
| Effectiveness | | |
| Ineffective | 15 | 11.81 |
| Less effective | 82 | 64.57 |
| Effective | 30 | 23.62 |
| Costs | | |
| High | 95 | 74.80 |
| Medium | 28 | 22.05 |
| Low | 4 | 3.94 |
| Satisfaction | | |
| Not satisfied | 20 | 15.75 |
| Less satisfied | 87 | 68.5 |
| Satisfied | 20 | 15.75 |

5. Conclusion

From the measures to prevent the spread of COVID-19, it necessary to change all teaching online system. This study interested in the challenges and factors affecting the acceptance of online learning as a tool for teaching within higher education in Thailand, which online learning was underutilized in the past. The development and implementation of online learning will lead to the evolution and transformation of teaching styles in the future. Based on data analysis and the findings of this study, it can be concluded that

- The sample group's overall learning behavior was at medium level ($\bar{x} = 3.2$). This shows that students are able to adapt to online learning fairly well. Student of 21st century has the ability to use online technology quite well.
- Internet signal availability is an important factor in learning. The main supporting factors of the effectiveness of online learning were the carrying capacity of network access and the ability of devices to access the internet. Students inevitably had to find way to access online learning. It would not be easy for ones who lack equipment. Moreover, expensive internet usage is also a barrier to online learning.
- Students perceived that the implementation of virtual learning in the Covid-19 period has not been fully effective. The difference of the learning style is mostly restricted, receive messages from the instructor, lack of discussion and interaction between the learner and the teacher. Also, the changes of environment, from classroom with others to studying alone at home is an important differentiator. Studying at the university level is highly competitive. Students are changed by the environment.
- In the current study, the majority of participants strongly not satisfy of online learning. The highest challenge for accepting online learning are insufficient/ unstable internet connectivity, lack of computers/ laptops, and technical problems. This investigation has identified factors that will improve the quality of online learning. This will make students feel better on online learning. Teachers also play an important role in creating positive attitudes. it is necessary to create good virtual lecture atmosphere, good interaction with students and sensitive to the reactions of learners because they can't see the behavior in class.
- However, there are many advantages of studying online. It reduces social interactions, make a new environment that lack of stimulation. The advantages of studying online at residence making it possible to focus on learning in the situation of COVID-19 or any situation. It is also making students feel safe from getting infected with the Covid-19 virus, reduce anxiety. Moreover, online teaching which can be taught anywhere and anytime can increase student motivation. Teachers can encourage students to be interested in the lesson by using various media. Students can review the content at any time and make them understand the content better. While being studied in online education, it save travel time and traveling costs, both of which can be then used for study purposes. Many students have developed their skills in various fields. However, different students have different learning behaviors. As for learning behaviors that affect the success of online learning, teachers should focus on the use of technology in learning at the end of the class meeting. teachers should monitor student participation and encourage learners to engage in learning.

Acknowledgment

The author would like to thank Suan Sunandha Rajabhat University, Bangkok, Thailand for providing fund, necessary equipment, and study area.

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