

The Factors Affecting Thai Students Learning Outcomes During the COVID-19 Pandemic

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Abstract: Background: It is undeniable that COVID-19 has spread all over the world. Because of the spread of this virus, people did not know how to handle this disease efficiently, and this led to problems in the medical, economic, political, and educational fields. Especially in educational fields, school closures as part of measures to control the spread of COVID-19 pose challenges that will transform the face of Thai education. Regarding that matter, Thai students have been learning online due to social distancing measures. Moreover, there are many opinions among students arguing whether online learning is effective or not. Therefore, this research aims to observe and study the attitudes toward learning outcomes of Thai students while having online classes during the COVID-19 pandemic.

Objective: To study attitudes toward learning outcomes among students who study online during COVID-19

Study Methods: The study is a cross-sectional, qualitative research which involves developing a survey. The survey is in the format of Google Forms, which was developed from June 1 to 30 June 2022 and was sent out to social media groups that students belong to. The survey was voluntary and 135 responses were received.

Result: Conclusion: Although there were a minority of students who gave a high rate but not higher than 4 in many questions, in the last question regarding the learning outcomes of the students, all of the students rated the score as not more than 2. This proved that, with many factors, even if some students picked online learning, it didn't mean that the online learning was effective.

Keywords: Covid-19, Online Learning, Students.

1. INTRODUCTION

Nowadays, it is undeniable that COVID-19 has spread all over the world. Because of the spread of this virus, people did not know how to handle this disease efficiently, and this led to problems in the medical, economic, political, and educational fields. To begin with the major impacts of COVID-19 on the Thai economy, Thailand's economy is expected to be impacted severely by the COVID-19 pandemic, shrinking by at least 5 percent in 2020 and taking more than two years to return to pre-COVID-19 GDP output levels, according to the World Bank's latest Thailand Economic Monitor, released today. [1]

The COVID-19 pandemic shocked the economy, especially in the second quarter of 2020, and has already led to widespread job losses, affecting middle-class households and the poor alike. Moreover, in the medical field, the coronavirus pandemic has tremendously impacted the healthcare sector, including pharmaceuticals and medical devices. The sector experienced a declining growth rate in the first quarter of 2020. It will take the coming two to three years for it to return to normal, when the strategies for mitigating the impact will be fully functional. Until then, the healthcare sector is expected to grow at a stagnant rate. [1] In addition, regarding the economic field, pandemics caused a short-term fiscal impact and a long-term economic impact on the nations around the world. Efforts to curb the pandemic include imposing quarantine, preparing health facilities, isolating infectious cases, and tracing contacts involving public health resources, human resources, and implementation costs. It also involves health system expenditures to provide health facilities for infectious cases and the arrangement of consumables such as antibiotics, medical supplies, and personal protective equipment. It could also result

in declined tax revenues and increased expenditure, which causes fiscal stress, especially in lower-middle-income countries (LMICs) where fiscal constraints are higher, and tax systems still need improvement. This economic impact severity was observed during the Ebola virus in Liberia due to the rise in public health expenditure, economic downfall, and revenue decline due to the government's inability to raise revenue because of quarantine and curfews. Economic shocks are common during pandemics due to labor shortages because of illness, a rise in mortality, and a fear-induced behavior. Other than labor shortages, disruption of transportation, workplace closures, restricted trade and travel, and closed land borders are reasons for the pandemic's economic slowdown. [2]

Importantly, the pandemic has a big impact on the Thai education system. School closures as part of measures to control the spread of COVID-19 pose challenges that will transform the face of Thai education. At present, there are nearly 13 million students stranded at home, and 600,000 teachers are unable to teach in their classes. The closing of schools has significant ramifications for the learning process as it means the educational trajectory of students is halted and their learning and development is impeded or even stopped. Furthermore, as students become more isolated amid this new social setting, they are prone to suffer from mental trauma caused by isolation and solitude -- something that is affecting young children more than adolescents. In response to the crisis, Education Minister Nataphol Teepsuwan has convinced educators around the country to shift their education services to a virtual space, namely online classes. Online classes due to social distancing create difficulties during lessons due to many factors, as inferred by the research named "Exploring factors influencing online classes due to social distancing in COVID-19 pandemic: a business students perspective" by Adil Zia, International Journal of Information and Learning Technology, ISSN: 2056-4880 Article publication date: September 1, 2020. The research aimed to explore the factors responsible for influencing online classes for business school during the COVID-19 pandemic, and also examine the level of influence of these factors on online classes. [3] Moreover, there was news that university students were dissatisfied with online learning and wished not to experience it again. Students said it resulted in a "lack of engagement", less time overall in class, isolation from their peers, IT issues, and made examinations and assessments particularly difficult and potentially unfair. [4] Consequently, this led to many impacts on students during the pandemic. Impacts included the lack of efficiency of technology, the difficulty for pupils to understand the concepts taught, and online learning causes social isolation and results in pupils not developing the necessary communication skills. [5]

Regarding the mentioned information in the previous paragraphs, you could see that COVID-19 has such a big impact on many fields. Education is one of them. Education plays an important role in the present society. It teaches students to be qualified adults in the future who will run the country. However, since the pandemic started, the government and the ministry of education have dealt with the problem by having students take online classes instead of learning face-to-face. This has created many problems and difficulties for some students to face while adapting to online classes. Therefore, this research aims to observe and study the attitudes toward learning outcomes of Thai students while having online classes during the COVID-19 pandemic.

Objective

1. To study attitudes toward learning outcomes among students who study online during COVID-19

2. STUDY METHODS

The study is a cross-sectional, qualitative research which involves developing a survey. The survey is in the format of Google Forms, which was developed from June 1 to 30 June 2022 and was sent out to social media groups that students belong to. The survey was voluntary and 135 responses were received.

Instruments:

The survey was developed based on 5 aspects of the following: Level of satisfaction on Online Learning, Perception of online learning effectiveness; level of understanding online lessons, Level of stress from group work, Perception of Online Learning outcome.

A preliminary draft of the survey was reviewed by three experts. Further revisions were made as seen as appropriate. The final draft of the survey contained 9 questions; 6 scales regarding Level of satisfaction on Online Learning, Perception of Online Learning Effectiveness, Level of understanding online lessons, Level of stress from group work, Perception of Online Learning outcome and No. of hours for online study per day. These scales are in the format of a five-point linear scale (from 1-least to 5-most). The responses of the five-point linear scale questions are assigned numbers as selected, The sum of all the responses correlates with the degree of each question answered. For demographic data, there are 3 questions; gender, grade level, device used, and number of hours spent on online learning.

3. RESULTS

Referring from the study about factors affecting Thai students' learning outcomes during the COVID-19 pandemic of grades 7-12 students in Thailand, it has been found that there were a total of 135 respondents, with the majority being female (n = 93, 68.9%) and the minority being male (n=42, 31.1%). Most of the participants were in Grade 9 (n = 28, 20.7%), followed by grade 10 (n=24, 17.8%), grade 11 (n=22, 16.3%), grade 7 and 8 which accounted for the same number and percentage (n=21, 15.6%) and finally, grade 12 (n=19, 14.1%). It was found out that most participants have all the gadgets including tablets, computer and phone used in online learning (n=99, 73.3%) followed by the ones who have only tablet (n=25, 18.5%) and finally, the ones who only have phones used in online session (n=11, 8.1%). It could be observed that most participants spent 5.01 - 7.00 hours learning online classes (n=60, 44.4%) followed by spending 7.01 - 10.00 hours (n=53, 39.3%), spending 3.01 - 5.00 hours (n=10, 7.4%), spending 1.00-3.00 hours (n=7, 5.2%) and finally, spending for more than 10.00 hours (n=5, 3.7%) respectively. When it comes to choosing two options between learning online classes or onsite classes, it was recorded that the majority chose having onsite classes (n=100, 74.1%).

In regards to the level of satisfaction on online learning, it was evident that out of 5, male rated a moderate level (M=3.40, SD=1.11) and female rated a bit lesser score than men (M=3.09, SD=1.03). Looking at grades, grade 11 rated the highest score (M=3.59, SD=0.91), followed by grade 12 (M=3.31, SD=1.25), grade 9 (M=3.25, SD=1.21), grade 8 (M=3.14, SD=0.91), grade 10 (M=2.96, SD=1.00) and finally, grade 7 (M=2.86, SD=0.96). Considering at people who have the certain devices for online learning, it could be observed that those who have all gadgets rated the score the highest compared to its counterparts (M=3.24, SD=1.07) followed by those who have tablets (M= 3.12, SD=0.97) and finally, the ones who have only phones used in online learning (M=2.82, SD=1.17). Paying attention to groups of people who spent certain amount of time on online learning, it was found that people who spent for more than 10 hours studying online classes rated the highest score (M=4.00, SD=1.00) followed by people who spent 1.00-3.00 hours (M=3.43, SD=1.40), people who spent 7.01 hours - 10.00 hours (M=3.30, SD=1.03), people who spent 3.01 - 5.00 hours (M=3.20, SD=1.14) and lastly, people spending 5.01-7.00 hours per day (M=2.98, SD=1.02)

Looking at groups of people choosing a choice between online learning or onsite learning, it was clear that people who chose to study online learning rated a higher score than the another group (M=4.26, SD=0.70). On the other hand, people who chose to have onsite classes rated a very low score (M=2.82, SD=0.90).

Referring to Perception of Online Learning Effectiveness, out of 5, male rated higher score compared to female (M=3.17, SD=1.27). In addition, female rated the score lesser than the median of the score (M=2.90, SD=0.98). Looking at grades, it turned out that grade 11 rated the highest score (M=3.27, SD=0.98) followed by grade 8 (M=3.00, SD=0.71), grade 7 and 9 (M=2.90, SD=0.94) and (M=2.90, SD=1.07) respectively, grade 10 (M=2.88, SD=1.12) and lastly, grade 12 (M=2.84, SD=1.21). Considering at people who have the certain devices for online learning, it could be observed that those who have tablets rated the highest score (M=3.04, SD=1.01) followed by those who have all gadgets (M=2.99, SD=1.03) and lastly, those who have only phones (M=2.55, SD=0.82). Concentrating at groups of people who spent the certain amount of time on online learning, it was evident that people who spent more than 10 hours of learning online classes rated the highest score (M=3.40, SD=0.5) followed by people who spent 1.00 - 3.00 hours (M=3.14, SD=1.57), people who spent 7.01 - 10.00 hours (M=3.04, SD=1.00), people who spent 5.01 - 7.00 hours (M=2.87, SD=1.00) and finally, people who spent 3.01 - 5.00 hours (M=2.80, SD=0.92). Looking at groups of people choosing a choice between online learning or onsite learning, it was clear that people who chose to study online learning rated a higher score than the another group (M=3.77, SD=0.94). On the other hand, people who chose to have onsite classes rated a very low score (M=2.68, SD=0.87).

From the information related to level of understanding online lessons, it could be observed that, out of 5, male rated higher scores than female did (M=3.17, SD=1.27) while female rated a very low level of understanding (M=2.90, SD=0.98). Looking at the grades, it was apparent that grade 8 rated the highest level of understanding (M=3.38, SD=0.92) followed by grade 11 (M=3.2, SD=0.88), grade 12 (M=2.94, SD=1.22), grade 9 (M=2.82, SD=1.28), grade 7 (M=2.81, SD=0.87) and lastly, grade 10 (M=2.75, SD=1.11). Focusing on people who have the certain devices for online learning, it was apparent that the ones who have all gadgets rated the highest score (M=3.10, SD=1.06) followed by the ones who have tablets (M=2.88, SD=1.05) and finally, the ones who have only phones (M=2.18, SD=0.98).

Turning to people who spent certain range of hours on online learning, it can be concluded that people who spent more than 10 hours rated the highest level (M=3.20, SD=1.30) followed by those who spent 7.01 - 10.00 hours (M=3.06, SD=1.06), people who spent 5.01 - 7.00 hours (M=2.95, SD=1.06), people who spent 1.00 - 3.00 hours (M=2.86, SD=1.46) and finally,

people who spent 3.01 - 5.00 (M=2.80, SD=1.03). Looking at groups of people choosing between learning online and onsite, it can be observed that people who chose learning online rated the level higher than the another choice (M=3.71, SD=0.95) while people who chose learning online rated a very low level of understanding (M=2.73, SD=0.95).

Regarding the information about the level of stress from group work in online study session, it was evident that male rated a higher stress level than female (M=3.36, SD=1.39). Additionally, female rated a lower level of stress (M=3.10, SD=1.38). Taking a look at the grades, it was apparent that grade 8 rated the highest level of stress (M=3.86, SD=1.01) followed by grade 10 (M=3.67, SD=1.34), grade 7 (M=3.05, SD=1.43), grade 9 (M=2.90, SD=1.40), grade 11 (M=2.87, SD=1.39), finally grade 12 (M=2.74, SD=1.14). Focusing on people who have the certain devices for online learning, it was apparent that the ones who have tablets rated the highest level of stress (M=3.28, SD=1.46) followed by

the ones who have only phones (M=3.27, SD=1.42) and lastly, the ones who have all gadgets (M=3.14, SD=1.37). Paying attention to people spending certain ranges of hours on learning online, it can be concluded that people who spent more than 10 hours rated the highest level of stress (M=4.00, SD=1.41) followed by people who spent 5.01 - 7.00 (M=3.30, SD=1.25), people who spent 7.01 - 10.00 hours (M=3.23, SD=1.38), people who spent 3.01 - 5.00 hours (M=2.50, SD=1.65) and lastly who spent 1.00 - 3.00 hours of studying (M=2.14, SD=1.57). Looking at groups of people choosing between learning online and onsite, it can be observed that people who chose onsite classes rated the higher level of stress than the another choice (M=3.36, SD=1.28) while the ones who chose learning online rated a low level of stress (M=2.66, SD=1.55).

Considering at the perception of online learning outcome, male seemed to rate higher than female (M=1.24, SD=0.43) however, female voted slight lesser than male (M=1.23, SD=0.42). Looking at grades, it was found that grade 9 and 10 rated the highest of all (M=1.29, SD=0.44) followed by grade 7 and 8 (M=1.24, SD=0.44), grade 12 (M=1.16, SD=0.37) and finally, grade 11 (M=1.13, SD=0.35). Paying attention to people who have the certain devices for online learning, it could be observed that people who have only phones rated the highest level of all (M=1.36, SD=0.50) followed by people who have tablets (M=1.32, SD=0.48) and lastly, people who have all gadgets (M=1.19, SD=0.40).

Turning to people spending certain ranges of hours on learning online, it can be concluded that people spending 3.01 - 5.00 hours rated the highest of all (M=1.40, SD=0.52) followed by people who spent 5.01 - 7.00 hours (M=1.27, SD=0.45), people who spent more than 10 hours (M=1.20, SD=0.45), people who spent 7.01 - 10.00 hours (M=1.19, SD=0.40) and lastly, people who spent 1.00 - 3.00 hours (M=1.00, SD=0.00). Moving to groups of people choosing between learning online and onsite, it was evident that people who chose onsite rated higher than online (M=1.27, SD=0.45) while online result was slightly lower than the ones who chose onsite (M=1.11, SD=0.32) (Table 1)

Table 1. Demographic characteristics, Level of Satisfaction on Online Learning, Perception of Online Learning Effectiveness, Level of Understanding on Online Lesson, Level of Stress from group work and Perception of Online Learning outcome of participants. (Table 1)

Table 1: Participants' demographic characteristic and Level of Satisfaction on online learning, perception of effectiveness of online learning, level of understanding on online learning, level of stress from group work, and perception of online learning effectiveness.

Variable	n (%)		Level of satisfaction on Online Learning	Perception of Online Learning Effectiveness	Level of understanding on online lessons	Level of stress from group work	Perception of Online Learning outcome
			M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Gender							
Male	42 (31.1)		3.40 (1.11)	3.31 (1.09)	3.17 (1.27)	3.36 (1.39)	1.24 (0.43)
Female	93 (68.9)		3.09 (1.03)	2.81 (0.940)	2.90 (0.98)	3.10 (1.38)	1.23 (0.42)
Grade							
M.1	21 (15.6)		2.86 (0.96)	2.90 (0.94)	2.81 (0.87)	3.05 (1.43)	1.24 (0.44)
M.2	21 (15.6)		3.14 (0.91)	3.00 (0.71)	3.38 (0.92)	3.86 (1.01)	1.24 (0.44)
M.3	28 (20.7)		3.25 (1.21)	2.90 (1.07)	2.82 (1.28)	2.90 (1.40)	1.29 (0.46)
M.4	24 (17.8)		2.96 (1.00)	2.88 (1.12)	2.75 (1.11)	3.67 (1.34)	1.29 (0.46)
M.5	22 (16.3)		3.59 (0.91)	3.27 (0.98)	3.27 (0.88)	2.87 (1.39)	1.13 (0.35)
M.6	19 (14.1)		3.31 (1.25)	2.84 (1.21)	2.94 (1.22)	2.74 (1.14)	1.16 (0.37)

Device mostly used for Online Learning							
Have all gadgets	99 (73.3)		3.24 (1.07)	2.99 (1.03)	3.10 (1.06)	3.14 (1.37)	1.19 (0.40)
Tablet	25 (18.5)		3.12 (0.97)	3.04 (1.01)	2.88 (1.05)	3.28 (1.46)	1.32 (0.48)
Only mobile phone	11 (8.1)		2.82 (1.17)	2.55 (0.82)	2.18 (0.98)	3.27 (1.42)	1.36 (0.50)
No. of Hours spent on Online Learning per day							
1.00-3.00hrs	7 (5.2)		3.43 (1.40)	3.14 (1.57)	2.86 (1.46)	2.14 (1.57)	1.00 (0.00)
3.01-5.00hrs	10 (7.4)		3.20 (1.14)	2.80 (0.92)	2.80 (1.03)	2.50 (1.65)	1.40 (0.52)
5.01-7.00hrs	60 (44.4)		2.98 (1.02)	2.87 (1.00)	2.95 (1.06)	3.30 (1.25)	1.27 (0.45)
7.01-10.00hrs	53 (39.3)		3.30 (1.03)	3.04 (1.00)	3.06 (1.06)	3.23 (1.38)	1.19 (0.40)
>10.00hrs	5 (3.7)		4.00 (1.00)	3.40 (0.5)	3.20 (1.30)	4.00 (1.41)	1.20 (0.45)
Prefer to study onsite or online							
Onsite	100 (74.1)		2.81 (0.90)	2.68 (0.87)	2.73(0.95)	3.36 (1.28)	1.27 (0.45)
Online	35 (25.9)		4.26 (0.70)	3.77 (0.94)	3.71 (1.10)	2.66 (1.55)	1.11 (0.32)
Total	135 (100)		3.19 (1.06)	2.96 (1.01)	2.99 (1.08)	3.18 (1.38)	1.23 (0.42)

4. DISCUSSION

Overall, it was evident that male results regarding Level of Satisfaction on Online Learning, Perception of Online Learning Effectiveness, Level of Understanding on Online Lesson, Level of Stress from group work and Perception of Online Learning outcome of participants are higher than female. Taking a look at grades, it was apparent that in year 9, overall, they seemed to find online learning wasn't such an obstacle for learning. Surprisingly, people who had chosen to learn online rated a high level of satisfaction. However, they rated the level of learning outcomes lower than those who had chosen to learn onsite.

This might be due to the fact that a male might be less concerned with details than a female. Regarding to the research stated that women were rated as excelling in taking initiative, acting with resilience, practicing self-development, driving for results, and displaying high integrity and honesty. [7] Furthermore, the fact that year 9 seemed to be satisfied with the online learning could possibly be due to the fact that the lessons in year 9 were quite easier than in other years. Also, teachers teaching in year 9 might not have any trouble with online teaching and be able to adapt to online teaching effectively. Additionally, all of the respondents choosing to rate the overall learning outcome at a very low level might be the result of various factors regarding the environment while learning, teachers not being able to adapt themselves to online learning, not having effective technological devices for learning etc. Regarding the high stress level of group work, this might be the result of having difficulties in communication. Since it was not a face-to-face situation, it was difficult to discuss the group work and do the project. Some assignments might be related to video-taking. It was therefore difficult to do the group work via an online platform.

Concerning the perception of online learning outcomes, most participants revealed that the results were at a very low level ($M=1.23$, $SD=0.42$). It could be that students felt that they didn't receive a qualified education for them, therefore, there were difficulties in doing the exam and understanding the lessons. Combining all of the mentioned factors of online learning, students might feel that schools should provide them with a better education compared to learning onsite. With the unqualified teaching, they weren't able to understand the lessons clearly, and they found difficulties in doing the assignments, especially in group work. Also, during having an exam, there might be technical errors while having an exam via online platform.

Observing the result, online learning might not be suitable for the majority of students.

It could rely on the fact that students had no concentration when it came to studying at their houses. In addition, having a lot of work to do increased the stress level of students, which made them not want to participate in online classes. Also, the lack of high-advanced technology created a lack of capability in teaching. Referring to the research related to satisfaction of online learning, it stated that Several researchers have reported that most areas of faculty dissatisfaction are linked to workload, student engagement issues, and time constraints. spent preparing teaching materials [6]

Limitation

First of all, people might get tired of learning online, so they might answer the questions without thinking carefully. Secondly, this research is promoted through social platforms, not by face to face. Therefore, people can't access this research because it's hard to persuade them to do it through social platforms.

5. CONCLUSION

In conclusion, online learning has been used during the pandemic of COVID-19. Taking a look at the results from students in every grade, it could be concluded that online learning was dissatisfied among the majority of the students. Questions regarding, the satisfaction, effectiveness, understanding level, stress level, and learning outcomes were mostly rated under 3.50 out of 5. Although there were a minority of students who gave a high rate but not higher than 4 in many questions, in the last question regarding the learning outcomes of the students, all of the students rated the score as not more than 2. This proved that, with many factors, even if some students picked online learning, it didn't mean that the online learning was effective.

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