СОЦИОЛОГИЧЕСКИЕ ИССЛЕДОВАНИЯ В ОБРАЗОВАНИИ

УДК 378 DOI: 10.17853/1994-5639-2022-2-206-224

SATISFACTION WITH REMOTE TEACHING IN THAI HIGHER EDUCATION

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Abstract. *Introduction.* Emergency remote teaching (ERT) is meant to be a temporary shift from the normal modes of contact teaching. Such transition was imposed during the global pandemic in the spring of 2020, and higher education was required to shift entire curricula online in an attempt to curb the spread of the virus while maintaining continuity of its services. The disruptive overnight change and conversion of entire courses to ERT caused concerns, not only to the educators but also to the students who had little time to adapt to the new circumstances.

Aim. The aim of the study was to examine student perceptions with regard to remote teaching during the global pandemic COVID-19. Moreover, the study aimed to identify attributes, which students deem as the most important during emergency remote teaching.

Methodology and research methods. This mixed-method case study expands earlier research addressing those concerns, and adds to the body of knowledge by investigating how ERT is currently – during the second year of the pandemic – perceived by undergraduate students in Northeastern Thailand. Responses from a self-administered survey were collected and analysed (n = 363). Based on descriptive analysis, it was decided to conduct 12 unstructured interviews to investigate particular findings more thoroughly. An importance-performance rating matrix was used to determine the perceived satisfaction by the undergraduate students.

Results and scientific novelty. The study identified that the students largely view ERT as inferior compared to traditional classroom teaching. Students claimed both lack of social interactions with peers and inability to seek academic support as the primary reasons. This study informs educators about student perceptions and preferences during these extraordinary circumstances of uncertain duration.

Practical significance. The current research presents the recommendations that aim to provide institutions and educators with practical guidance on how to tackle the outlined issues.

Keywords: distance education, remote teaching, technology-enhanced learning, online learning, higher education, undergraduate students.

Acknowledgements. The authors would like to thank the participants, who contributed to the research project by answering the questionnaire and attending the interviews. The project under the Fast Track Data Collection Grant was funded by the Faculty of Hospitality and Tourism, Prince of Songkla University.

For citation: Fuchs K., Karrila S. Satisfaction with remote teaching in Thai higher education. *The Education and Science Journal.* 2022; 24 (2): 206–224. DOI: 10.17853/1994-5639-2022-2-206-224

УДОВЛЕТВОРЕННОСТЬ ДИСТАНЦИОННЫМ ОБУЧЕНИЕМ В ВУЗАХ ТАИЛАНДА

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Аннотация. *Введение.* Экстренное дистанционное обучение (ERT) – это временная замена обычных режимов контактного обучения. Такой переход был необходим во время глобальной пандемии весной 2020 года, и высшему образованию потребовалось перевести все учебные программы в онлайн-режим, чтобы предотвратить распространение вируса, но при этом не прерывать образовательный процесс. Резкое преобразование всех курсов в ERT вызвало озабоченность не только у преподавателей, но и у студентов, у которых было мало времени на адаптацию к новым обстоятельствам.

Цель. Цель настоящей работы – изучить отношение студентов к дистанционному обучению во время глобальной пандемии COVID-19. Также исследование было направлено на определение атрибутов, которые студенты считают наиболее важными во время экстренного дистанционного обучения.

Методология и методы исследования. Данное тематическое исследование, основанное на смешанных методах, расширяет более ранние работы, направленные на решение этих проблем, и дополняет совокупность знаний путем изучения того, как в настоящее время – в течение второго года пандемии – воспринимается ERT студентами в Северо-Восточном Таиланде. Были собраны и проанализированы ответы в ходе самостоятельного опроса (n = 363). На основе описательного анализа было решено провести 12 неструктурированных интервью для более тщательного исследования конкретных результатов. Ма-

трица рейтинга важности и успеваемости использовалась для определения имеющейся удовлетворенности студентов бакалавриата.

Результаты и научная новизна. Анализ показал, что студенты в основном рассматривают ERT как более неполноценный вид обучения по сравнению с традиционным (в классе). Основные причины, названные студентами: отсутствие социального взаимодействия со сверстниками и невозможность получить академическую поддержку. Настоящее исследование информирует преподавателей о восприятии и предпочтениях учащихся в этих чрезвычайных обстоятельствах неопределенной продолжительности.

Практическая значимость. В работе представлены практические рекомендации для образовательных учреждений и преподавателей относительно того, как решать обозначенные вопросы.

Ключевые слова: дистанционное образование, дистанционное обучение, обучение с использованием технологий, онлайн-обучение, высшее образование, студенты бакалавриата.

Благодарности. Авторы благодарят участников, которые внесли свой вклад в исследовательский проект, ответив на вопросы анкеты и дав интервью. Проект в рамках гранта Fast Track Data Collection Grant финансировался факультетом гостеприимства и туризма Университета Принца Сонгкла.

Для цитирования: Фукс К., Каррила С. Удовлетворенность дистанционным обучением в вузах Таиланда // Образование и наука. 2022. Т. 24, № 2. С. 206–224. DOI: 10.17853/1994-5639-2022-2-206-224

Introduction

Higher Education during COVID-19

The application of the online education paradigm has grown tremendously since the early 2000's. Most prominently, an ever-increasing group of people is interconnected globally by the Internet. It is estimated by the United Nations that approximately 4.68 billion people had access to the Internet by the end of the year 2020. This number represents approximately 58% of the world's population, and the associated growth of online education does not come as a surprise [1, 2]. Yet, the unprecedented global pandemic since the first quarter of the year 2020 created an entirely new phenomenon: due to the severe nature of the coronavirus, entire curricula were moved to online education overnight [3, 4]. The challenge herein was not limited to the educators, who found themselves in a situation of needing to teach their entire syllabus online, but also impacted the students who needed to adapt to a new learning environment instantaneously [5, 6].

Research Aim and Objectives

This study is an expansion of an earlier case study done by Fuchs and Karrila [7], who sought to examine the perceived satisfaction of students in higher

education concerning emergency remote teaching amid COVID-19 in Southern Thailand. Fuchs and Karrila [7] observed that most undergraduate students prefer a traditional on-site classroom arrangement, but were satisfied with the alternative ERT that was delivered fully online. Their case study highlighted that the students perceived knowledge, friendliness, and patience as the most important characteristics of their lecturer in these circumstances. This study adapts the methodological framework from Fuchs and Karrila [7] and applies it in a different geographical setting in order to meet the following research objectives:

1) To examine student engagement and perceived satisfaction with remote teaching during COVID-19, among undergraduate students in Northeastern Thailand.

2) To identify attributes, which are deemed the most important during emergency remote teaching, from views of undergraduate students in Northeastern Thailand.

3) To establish a baseline for future research and contribute to the body of knowledge with regards to remote teaching in Northeastern Thailand.

Moreover, the research was guided by the following research question: "How do undergraduate students in Northeastern Thailand perceive emergency remote teaching during COVID-19?".

Literature Review

Higher Education during COVID-19

As a response to the global healthcare crisis, online (emergency) remote teaching has been put into practice. It is a complex process that requires careful planning, design, and determination of aims, in order to create an effective learning ecology [4, 8]. The temptation to compare online learning to face-to-face instruction in these circumstances will be great [7]. Online learning carries a stigma of being lower in quality than face-to-face learning, despite research showing otherwise [2, 4]. These hurried moves to online education by so many institutions at once could seal the perception of online learning as a weak option when, in truth, nobody making the transition to online teaching under these circumstances was truly able to take full advantage of the affordances and possibilities of the online format [4]. Due to the threat of COVID-19, universities are facing decisions about how to continue teaching and learning while keeping their faculty, staff, and students safe from a public health emergency that is morphing fast and is not well understood. Many institutions have opted to cancel all face-to-face classes, including lab-based classes and seminars [9].

E-learning in Higher Education

The universality of information technology has been influencing almost all aspects of our lives: the way we work, interact with others, process data into information, analyse and share information, entertain ourselves, and enjoy tourism [10]. COVID-19 has resulted in complete school closures all across the world. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. As shown in a previous study [11, p. 41–42], effective time management was the second-highest-rated advantage of online education, with students having more freedom to control their time and not being constrained by predetermined schedules. Another study [9, p. 118–119] found that, depending on the teaching methods used, the ability to use multiple virtual classrooms at the same time could improve student interest and involvement, allowing for smaller group discussions during online lectures. Furthermore, a combination of time and location versatility was claimed as one of the key advantages of online education [2]. The benefit of place and time flexibility works both ways, allowing both the students and the educators to each choose their preferred work environment. According to Downes [2, p. 114–118] in his Connectivism-based educational theory, the online medium provided an opportunity and experience to connect with students from various disciplines, backgrounds, and cultures.

(Emergency) Remote Teaching or ERT

As a result of crises, (emergency) remote teaching is a temporary transition in instructional delivery to an alternative delivery model, wherein it is implied that teaching is carried out entirely online. It was also stated that online education has been studied for decades, with a consensus on the elements that do not contribute proportionally to the efficacy of online education [12]. These characteristics include but are not limited to modality, pacing, student-instructor ratio, pedagogy, the role of assessment, the instructor's role, the student's role, communication channels, and sources of feedback. These characteristics will invariably be evident in an effective ERT class. The lack of time available for educators to change their instructional materials – in the event of a last-minute switch from classroom to online – may potentially induce an unsuitable learning atmosphere for the students [4]. Kyne and Thompson [12] conducted a case study that described many challenges faced by students during their fully online semester. Completing lab-based tasks, navigating Moodle (a Learning Management System), and engaging with online content were among them [12, p. 3381].

Challenges related to ERT

If the course content is not carefully and intentionally designed, "undergraduate students claim a lack of socialisation with peers and low engagement with the course materials" as primary reasons for their dissatisfaction, according to a similar study [9]. Furthermore, Wilcox and Vignal [13] discovered that the two most common difficulties students faced as a result of ERT were associated with (1) course inception, and (2) learning environment. The most frequently mentioned issue in the above group was unreliable Internet access that hindered the students' learning experience. Participants said the learning process was uncomfortable and unpleasant, according to Gelles et al. [3]. Although there are many benefits and opportunities in the online education paradigm, it should be recognised that it is not without its difficulties and flaws. Certainly, lack of student engagement [9], willingness to meet learning outcome targets [14], and involvement of low-performing students [15] are all difficulties identified in previous studies. However, given the substantial changes that emergency remote teaching could entail, there is further potential for a new set of challenges to emerge.

Student engagement and satisfaction

Student engagement has been identified as an important precursor to student learning [16]. Furthermore, Zyngier [16] notes that engagement is now at the center of mainstream education discussion and debate. Student engagement is widely recognised as an important factor influencing achievement and learning in higher education, and as such is being widely theorised and researched [16, 17, 18]. Therefore, promoting student engagement has become an educational priority since greater student engagement translates into valued student experiences, improved academic performance, and increased retention rates [18]. Satisfaction, on the other hand, is a euphoric feeling that occurs when a person's needs and desires have been met [19, 20]. It is a state of mind of a person, who has achieved or perceived a result that has exceeded their expectations [20, 21]. As a result, satisfaction can be described as an experience of having received at least the expected results. In related research, satisfaction is often portrayed as the positive difference between the perceived importance and the perceived performance of an attribute or action [20, 22]. In other words, satisfaction refers to the satisfaction or dissatisfaction experienced as a result of contrasting perceived results to expectations [19].

Methodology

Sample

The data were collected from undergraduate students of all years who were enrolled in a full-time degree programme. The sample included degree programmes that relate to Business Administration and Business Management studies. More specifically, the majors that were included in the sample were: (1) Marketing, (2) Tourism and Hospitality, and (3) General Management. After screening the collected data, the following responses were discarded from further analysis: Responses from another Faculty (i.e. Faculty of Science), responses from international exchange students (responses from international degree students were included in the analysis), inconclusive/incomplete responses as well as responses from students in their final year of study (year four or beyond due to insufficient data). An overall sample of 363 responses was included in the descriptive data analysis. Based on all eligible responses, the representative socio-demographic profile in Table 1 summarises the respondents' gender, year of study, age range, nationality, and preferred mode of study.

Table 1

Socio-demographic characteristics of the participants

Characteristic	**Frequency**	**Percentage**
Gender		
Male	111	31%
Female	252	69%
Year of study		
Year 1	79	22%
Year 2	208	57%
Year 3	76	21%
Age range		
18 years old or below	7	2%
19 – 20 years old	281	78%
21 – 22 years old	56	15%
23 – 24 years old	8	2%
25 years old or above	11	3%
Nationality		
Thai	292	80%
Foreign	71	20%
Preferred mode		
Virtual classroom	94	26%
Traditional classroom	269	74%

For the qualitative follow-up investigation, 12 students were recruited for unstructured interviews. The students were selected from the pool of participants (Table 1) based on their availability after the quantitative data analysis was concluded. The demographic profile of the interviewed students included six female and six male students. Furthermore, four students from each year of study were chosen (Year 1, Year 2 and Year 3). Lastly, 10 of the students were Thai and two were foreign exchange students.

Administration

The empirical data were collected in the second quarter of 2021 at a large higher education institution in northeastern Thailand. The data were collected in the midst of a countrywide ERT policy that was implemented and effectively replaced traditional face-to-face teaching. That effectively meant that all learning materials for the students were converted to digital resources that were made available through their LMS (learning management system). All of the respondents enrolled for a degree programme that is supposed to be delivered through on-site learning, wherein their entire academic year was converted to distance education. The majority of respondents domiciled in the campus dormitory, which was also the place of study to attend their online classes through Microsoft Teams or Zoom video conferencing. Furthermore, the students were able to use the library to attend online classes by adhering to stringent social distances measures (keep distance to others, regularly wash hands, and disinfect their desk). Convenience sampling was used to collect the data through a bilingual (Thai and English) self-administered digital questionnaire (e-survey accessed via a tablet) and students were arbitrarily selected based on their availability. The students were recruited on-site to voluntarily participate in the data collection. Furthermore, the students were asked for their assistance to further distribute the survey amongst their peers.

Research instrument

The questionnaire was split into three sections containing a total of 27 questions and was adapted from an earlier case study [7]. The first section sought to collect data on the participant's socio-demographic profile. The second section contained a set of ten (10) question items, and an identical set of questions was used in the third section. The participants were able to express their views on a 5-point Likert-type scale with pre-coded responses. The pre-coded responses for the second section ranged from Not Important At All (1), Not Very Important (2), Somewhat Important (3), Very Important (4), to Extremely Important (5). Similarly, the third section had pre-coded Likert-type responses for Not At All Satisfied (1), Not Very Satisfied (2), Somewhat Satisfied (3), Very

Satisfied (4), and Extremely Satisfied (5). Otherwise, the items in the second and third sections were similar, to facilitate comparing the perceived importance and perceived performance by each item (Table 2).

Table 2

Questionnaire statements for the quantitative data collection

No.	Attribute Description
1	The teacher begins the class with a review of the previous class
2	The teacher presents the material in an interesting and engaging way
3	The teacher presents the material in an organised and coherent way
4	The teacher is knowledgeable about the content of the course
5	The teacher is friendly and patient with the students
6	The course material is well and professionally prepared
7	The course material is easy to access in the LMS
8	Students are engaged to actively participate in the discussion
9	I am learning something that I consider valuable
10	I am finding the course challenging and stimulating
11	Aggregated total of all responses

The structure and content of the administered questionnaire were examined for validity by three university lecturers through an earlier case study [7]. Furthermore, it was tested for comprehension in a focus group discussion involving three students. These preliminary examinations yielded minor revisions in the wording to enhance the clarity of the questionnaire. For the interviews, the lead investigator conducted unstructured interviews based on the findings from the quantitative analysis to gain a more comprehensive insight into the participants' perspectives. An unstructured interview model allows going more in-depth on a particular topic [23] and identifying traits of the participant that have an impact on their perception [24]. While unstructured interviews (or non-directive interviews) do not have a predefined catalogue of questions, they tend to follow a specific theme that guides the discussion [23, 24]. Furthermore, the interviews were transcribed verbatim and the content analysis was developed from the transcribed interviews. The length of the interviews ranged from 23 minutes (shortest) to 45 minutes (longest) with an average duration of 29 minutes. The participants were students enrolled in an undergraduate degree programme, and voluntarily agreed to participate in the data collection for this study. It was made clear to them that their participation had no effect on their academic performance or assessment.

Ethical considerations

The foundation for ethical considerations is based on the principles formulated by the Norwegian National Research Ethics Committees [25]. These ethical norms include issues such as "requirements for honesty, requirements for informed consent, anonymisation and storage of data, the right of access to data for participants and duty of confidentiality for all those who undertake research" [25]. The questionnaire for the quantitative data collection contained a disclaimer stating that participation is entirely voluntary, not related to their current academic assessment as well as that all responses would be recorded anonymously. Before commencing the interviews, confidentiality and data privacy were considered and guaranteed to the participants. The interview participants were presented with the specific aim and scope of the research and verbal consent was obtained through recording their agreements before conducting the interviews [25].

Data analysis

In the first step, the quantitative data were screened and prepared (exclusion criteria are mentioned in section 3.1). After completing the data preparation phase, the questionnaire data were examined using JASP (software for statistical analysis) to obtain an average value (Mean), median, mode, standard deviation (SD), minimum value (Min), maximum value (Max), the proportions of the data (i.e. fractions of cases without missing data), and distribution of data for each item. The comparison and further analysis of mean values was selected based on a symmetrical distribution pattern with very few outliners in the data. This decision is coherent with the suggestions made by Zawojewski and Shaughnessy [26] as well as by Ong and Puteh [27] in similar social science studies, namely suggesting the analysis of mean values. Moreover, independent T-tests were performed to determine if there was a significant difference between the means of importance and performance. In the second step, it was decided to conduct unstructured interviews in order to gather more data on specific empirical findings from the quantitative data collection. The findings that required a qualitative follow-up inquiry are discussed in the sections below. The content analysis was developed from the transcribed (verbatim) interviews by highlighting relevant keywords, mapping these keywords to codes and later establishing themes. The interviews allowed us to gain a more comprehensive insight into the students' perceptions of (emergency) remote teaching. The data analysis and findings are discussed and interpreted in later sections of this paper.

Results and Discussion

The results are presented in three separate sections that allow for chronological analysis and presentation. The first section presents the mean values for each attribute and allows for comparison of the results and analysis of engagement and satisfaction with emergency remote teaching. Moreover, the variances were calculated and independent t-tests were performed to determine whether there are statistically significant differences between the corresponding mean responses to an item in importance and performance. The second section presents the demographic profiling that was conducted to identify similarities or dissimilarities within the sample based on gender, age range, year of study, nationality, or preferred mode of study. Lastly, qualitative findings from the unstructured interviews are presented in the last subsection to provide more comprehensive insights into particular findings (lack of social interactions with peers, inability to seek academic support, and low engagement in remote study).

Analysis of importance- and performance ratings

The results are organised by attribute ranging from No. 1 to No. 10, for importance ratings and performance ratings. For each attribute Table 3 shows the mean response and its standard deviation based on the 363 eligible responses.

The three highest mean ratings concerning the perceived importance of each attribute are No. 5 (4.17; the teacher is friendly and patient with the students), No. 2 (4.16; the teacher presents the material in an interesting and engaging way), and No. 4 (4.12; the teacher is knowledgeable about the content of the course). At the other extreme, the lowest ranked attributes related to perceived importance are No. 8 (3.92; students are engaged to actively participate in the discussion) as well as No. 10 (3.99; I am finding the course challenging and stimulating). On the other hand, the highest mean ratings concerning the perceived importance are No. 1 (3.91; the teacher begins the class with a review of the previous class), No. 9 (3.87; I am learning something which I consider valuable) and No. 10 (3.86; I am finding the course challenging and stimulating). At the opposing end of the lowest mean ratings are No. 6 (3.61; the course material is well and professionally prepared) and No. 7 (3.72; the course material is easy to access in the LMS). Overall, the responses related to perceived importance ranged from 3.92 to 4.17, whereas the responses related to perceived performance ranged from 3.61 to 3.91. The standard deviations across all twenty items that were analysed were fairly consistent, ranging from 0.99 (smallest) to 1.11 (largest).

Table 3

Importance- and performance ratings summarised from empirical data

No.	Importance[1]			Performance[2]		
	Mean	Median	SD	Mean	Median	SD
1	4.01	4.00	1.02	3.91	4.00	1.05
2	4.16	4.00	0.99	3.79	4.00	1.06
3	4.05	4.00	0.99	3.77	4.00	1.06
4	4.12	4.00	1.01	3.81	4.00	1.11
5	4.17	4.00	1.04	3.77	4.00	1.02
6	4.11	4.00	1.04	3.61	4.00	1.10
7	4.11	4.00	1.04	3.72	4.00	1.03
8	3.92	4.00	1.08	3.82	4.00	1.05
9	4.06	4.00	1.04	3.87	4.00	1.01
10	3.99	4.00	1.08	3.86	4.00	1.04
11	4.07	4.00	1.03	3.79	4.00	1.05

[1] Ratings obtained from a Likert-type five points scale ranging from lowest rating to highest rating, i.e. Not Important At All (1), Not Very Important (2), Somewhat Important (3), Very Important (4), and Extremely Important (5).
[2] Ratings obtained from a Likert-type five points scale ranging from lowest rating to highest rating, i.e. Not At All Satisfied (1), Not Very Satisfied (2), Somewhat Satisfied (3), Very Satisfied (4), and Extremely Satisfied (5).

In the next overview (Table 4) the mean values of all ten attributes are compared between the importance ratings and the performance ratings given by the surveyed students. Furthermore, the most common response is displayed next to the mean value ("Mode" in Table 4). With regard to the most common value based on the 363 responses, it can be noted that with one exception (Item No. 8) all the items had 5 (Extremely Important) as the most common response. Contrary to this, all the attributes except one (Item No. 1) in performance ratings had 4 (Very Satisfied) as the most common response in the 363 responses that were included in the analysis. Another trend that is noteworthy emerges from comparing of mean values. Across all ten attributes, the importance rating was always higher than the corresponding performance rating of the same attribute. The largest difference between importance and performance was recorded for No. 6 (-0.50) that relates to "the course material is well and professionally

prepared". Next to that, the second largest difference was for No. 5 (-0.40) related to "the teacher is friendly and patient with the students". At the other extreme, the smallest difference was noted for No. 1 and No. 8 (-0.10 for both). Therefore, the items "the teacher begins the class with a review of the previous class" (No. 1) and "students are engaged to actively participate in the discussion" (No. 8) almost met the students' expectations based on comparing their ratings of importance and performance.

Table 4

Comparison of importance- and performance ratings based on own data

Attribute	Importance rating		Performance rating		Difference in mean ratings[1]
	Mean ($\bar{x}$)	Mode	Mean ($\bar{x}$)	Mode	
Item 1	4.01	5.00	3.91	5.00	-0.10
Item 2	4.16	5.00	3.79	4.00	-0.37
Item 3	4.05	5.00	3.77	4.00	-0.28
Item 4	4.12	5.00	3.81	4.00	-0.31
Item 5	4.17	5.00	3.77	4.00	-0.40
Item 6	4.11	5.00	3.61	4.00	-0.50
Item 7	4.11	5.00	3.72	4.00	-0.39
Item 8	3.92	4.00	3.82	4.00	-0.10
Item 9	4.06	5.00	3.87	4.00	-0.19
Item 10	3.99	5.00	3.86	4.00	-0.13
Item 11	4.07	5.00	3.79	4.00	-0.28

[1] The differences were calculated between the means: [Performance] – [Importance] = [Difference]

Moreover, there are two further observations that are noteworthy. Firstly, the students have relatively high expectations concerning (emergency) remote teaching, as indicated by the high means of ratings (range: 3.92–4.17) and their modes. And secondly, none of the surveyed items (performance ratings) was able to outperform the students' expectation (importance ratings), therefore, leaving the students unsatisfied by definition. Nevertheless, it should be mentioned that the gap between importance and performance was never larger than half a point (0.50) on a five-point Likert-type scale.

Table 5

Paired Samples T-Test[3] based on mean values

Attribute	[I] Mean[1]	[P] Mean[2]	t-value	p-value
Item 1	4.01	3.91	2.122	0.035
Item 2	4.16	3.79	7.398	< .001
Item 3	4.05	3.77	6.042	< .001
Item 4	4.12	3.81	6.316	< .001

Item 5	4.17	3.77	8.317	< .001
Item 6	4.11	3.61	9.212	< .001
Item 7	4.11	3.72	6.696	< .001
Item 8	3.92	3.82	1.922	0.055
Item 9	4.06	3.87	3.849	< .001
Item 10	3.99	3.86	3.149	0.002
Item 11	4.07	3.79	5.025	< .001
[1] Mean importance rating; [2] Mean performance rating; [3] Null Hypothesis based on Student's test: [I] Mean ≠ [P]				

Demographic profiling of both sample groups

The socio-demographic profile, consisting of gender, age range, year of study, and nationality, was included in a rigorous cross-analysis wherein noteworthy deviations or similarities were detected. Analysing the ten attributes in relation to the perceived importance by preferred mode of study (i.e. traditional classroom vs. virtual classroom as part of emergency remote teaching) yielded a noteworthy result. While there is agreement on many items and similar trend lines for both groups (those who prefer the traditional classroom and those who prefer the virtual classroom), it can be noted that there are opposing views amongst these groups for item No. 3 ("the teacher presents the material in an organised and coherent way") and No. 6. ("the course material is well and professionally prepared"). For both items, the student group, who prefers the virtual classroom (as part of ERT) perceives these particular items as more important than their peers who prefer the traditional classroom. A possible hypothesis that derives from this finding would be that "students who prefer the virtual classroom have higher expectations towards the material and presentation than their peers who prefer the traditional classroom".

Furthermore, the preferred mode of study (i.e. traditional classroom vs. virtual classroom as part of emergency remote teaching) was analysed by the socio-demographic characteristics reported in Table 1. The baseline for comparison is the overall result that is based on 363 responses, among which 74% preferred a traditional classroom and 26% preferred the virtual classroom as part of emergency remote teaching. Moreover, two noteworthy exceptions were detected when analysing the data against the baseline results.

Firstly, students in their third year of study have a slightly higher approval rate of emergency remote teaching (29%) compared to their younger peers (25%). The other notable finding relates to the nationalities of students, namely that the foreign students expressed more frequent agreement with emergency remote teaching (34%) compared to any other socio-demographic characteristic that was analysed. In comparison, only 24% of Thai students preferred emergency remote teaching over the traditional classroom. To validate the findings, a Fisher's exact

test was conducted to identify if the corresponding findings are statistically significant or not. It can be concluded that none of the tests revealed a statistical significance at $p < .05$. Therefore, the assumption that these findings are statistically relevant can be rejected. However, they still offer value with regards to subjectively segmenting the sampled students based on their preferences.

Lastly, all twenty questionnaire items (No. 1-10 for importance and No. 11-20 for performance) are compared by nationality. While a similar trend can be noted, it is remarkable that the foreign students generally gave higher importance and performance ratings on all twenty items compared to their Thai peers. It shows that the mean values from foreign students are higher on all counts compared with their Thai peers. A hypothesis that derives from this finding is that "foreign degree students have commonly higher expectations than their Thai peers" with regard to ERT.

Qualitative findings based on unstructured interviews

Student engagement can be a challenging theme in any classroom environment. In order to put specific aspects and results of the quantitative questionnaire into better perspective, a follow-up inquiry with 12 students was conducted. The unstructured interviews revealed the following concerns: lack of institutional socialisation with other students, lack of peer-to-peer socialisation, and feeling of helplessness when in need of academic support as well as technological difficulties to navigate the classroom applications. The findings with supportive statements from the participants are presented in the following paragraphs.

A study conducted by Easa and Bazzi [28] suggests that institutional socialisation with other students as well as peer socialisation amongst students is positively related to overall satisfaction with the teaching services provided. Hence a claim made by multiple participants in the interviews that they are lacking socialisation with their peers can indeed be seen as a possible cause for deteriorated satisfaction and as an obstacle to good academic performance. In particular, the students, who were interviewed and subjected to emergency remote teaching did not apply for admission to an online degree programme (i.e. they never had the intention to study remotely). Furthermore, they had none to limited prior experience with distance learning, therefore, the sudden shift could have been a more severe burden compared to those students with prior experience.

"*I miss to go to university and meet my friends. Some of them, I haven't seen in a very long time already*". (P5)

Another reoccurring theme that was reported by several of the twelve interviewed students was the ability to stay focused when studying from home (remotely). The students agree that they feel more engaged when studying in a

physical classroom on-site. The lower engagement rating for virtual classrooms could derive from the sudden nature of ERT, as mentioned by Hodges et al. [4]. Educators found themselves in a situation of needing to teach their entire syllabus online with little preparation time and often no prior experience with online teaching [6].

"*When I have to study at home, it is easy to get bored in front of the screen. I often decide to play with my phone or chat with my friends and don't pay attention to the teacher. When I am in real class, I pay more attention*". (P3)

In order to create meaningful classroom experiences, it is necessary that every student has adequate access to the course content, the knowledge, the tools, the lecturer and classroom community as a whole. There is no guarantee that students are going to have a rightful experience with the traditional class despite the utmost effort of the academic staff. However, there are strategic things that can be done to level the playing field and provide access to students as much as possible. Based on the existing literature and putting the empirical findings into perspective, it appears that academics are not prepared to the same magnitude of effort as with their traditional teaching. An exemplary finding is the statement from a participant who felt abandoned when needing academic support from the teaching or support staff.

"*When I need help or support, I often don't know how to contact. When I am at university, I can just walk to the office after class. It's easier and more convenient. When I have problems during study at home, I often don't ask*". (P8)

Similarly, it should not be assumed that every student has the same digital literacy, as supported by Khlaif, Salha and Kouraichi [29, p. 1–2], who state in a similar case study that "most of the participants reported learning online during the crisis has broadened the digital inequality and threatened their digital privacy which influenced negatively student engagement". This has also been a recurring theme with the majority of the twelve interview participants, who noted that they felt more proficient in using the technology compared to the beginning of the pandemic (i.e. 14–15 months prior to the interview). Nevertheless, they admitted that they often feel insecure to use the technology.

Conclusion and Future Works

It was the primary objective of this study to examine student engagement and perceived satisfaction among undergraduate students in Northeastern Thailand. Furthermore, the study aimed to identify attributes that are deemed as the most important and characteristics that are noteworthy. Everyone involved in the temporary but sudden shift to virtual learning must recognise that these crises cause disturbances to students, staff, and educators alike.

While the coronavirus pandemic will hopefully soon be a distant memory, we should not simply return to our pre-virus teaching and learning practices and ignore valuable lessons learned from ERT.

There are a few noteworthy findings from this study that outline where the educators' emphasis could be placed in a sudden and disruptive move toward virtual teaching. For example, the study revealed that students in their third year appear less reluctant towards remote teaching than their younger peers. If only a limited quota of the students would be allowed to return to campus, the emphasis could be placed on allowing the younger students to return first. Another noteworthy finding from this study was that foreign students are generally more open towards remote teaching than their Thai peers. Even though there is no evidence in the literature that currently offers a sufficient explanation of this phenomenon, it could help educators when allocating and prioritising resources during hybrid teaching (while a limited number of students can be accommodated back on campus).

Moreover, the limitations of this study offer opportunities for future research; while the authors tried to mitigate possible limitations as far as possible, it is necessary to point out that the settings in which the results were collected are geographically limited to the northeastern region of Thailand and not generalisable to a larger population. Furthermore, the demographic profiling of students offers opportunities for future research to quantitatively validate the results and possibly generalise the findings to a larger population.

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Conflict of interest statement. The authors declare that there is no conflict of interest.

Received 20.09.2021; revised 05.01.2022; accepted for publication 12.01.2022.

The authors have read and approved the final manuscript.

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Информация о конфликте интересов. Авторы заявляют об отсутствии конфликта интересов.

Статья поступила в редакцию 20.09.2021; поступила после рецензирования 05.01.2022; принята в печать 12.01.2022.

Авторы прочитали и одобрили окончательный вариант рукописи.