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Emergency Remote Teaching during COVID-19: A Comparison of Student Perceptions

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Abstract

The pandemic has shaken up the higher education landscape around the world, with responses from institutions falling into three categories: retaining in-class teaching with social distancing, adopting hybrid models (blended learning, limiting the number of students on campus), or transitioning to fully online teaching. However, there is a significant difference between emergency remote teaching and a genuine shift to online/hybrid learning, with the key distinguishing term being “emergency.” In response to the global pandemic, the higher education community is now working on the continuous development of action plans in a quest to identify means to manage the crisis more efficiently. The purpose of this paper is to analyze the perceived performance of ERT from the perspective of undergraduate students. For that purpose, samples (n=332) were taken in two different geographical settings, i.e., Thailand and Sweden. Moreover, it is the objective to compare both samples and identify similarities and inadequacies which help stakeholders to manage ERT more efficiently in the future.

Keywords: Emergency Remote Teaching, Higher Education, Virtual Classroom, ERT, Thailand, Sweden

1. Introduction

All research undertaken during the pandemic represents a transient response from instructors and institutions. The sustainability of university education is one of the concerns expressed during the global COVID-19 epidemic. According to Muftahu (2020), the pandemic generated extremely difficult economic conditions that jeopardize university education's long-term viability. He further said that uncertainty and insufficient funding is likely to lead to a lack of support for university courses and potentially jeopardize the long-term viability of higher education. The global COVID-19 pandemic has also brought attention to the need for higher education institutions to develop more adaptable teaching methods (Schlesselman, 2020). The pandemic led all universities around the world to cancel classes, affecting the vast majority of the student population. Some institutions were able to offer remote learning or online education, but the majority of institutions were unprepared to respond quickly and mitigate the effects of COVID-19's absolute lockdown (Hodges et al., 2020; Schlesselman, 2020; Muftahu, 2020). It is the purpose of this paper to share the latest work-in-progress research concerning the perceived performance by undergraduate students concerning emergency remote teaching in two different geographical settings, i.e., Thailand and Sweden, and compare their perceptions.

2. Methodology

2.1. Secondary Data

The sample representing the data collected in Thailand was taken from an earlier study (Fuchs & Karrila, 2021). Henceforth, the data will be referred to as “secondary data” for this paper. The design of the questionnaire, sampling procedure, and data analysis were adopted from Fuchs and Karrila (2021). However, the data was further modified to allow for easier comparison with the empirical data collected in Sweden. These modifications included the removal of responses from students in their fourth and fifth years. The included sample accounts for 174 responses ($n^1=174$) from Thailand (Table 1).

2.2. Empirical Data

The sample representing the data collected in Sweden was collected from undergraduate students in a full-time business degree program in the second quarter of 2021 during a nationwide lockdown as the result of COVID-19. The collected data will be referred to as “empirical data” for this paper. The design of the questionnaire, sampling procedure, and data analysis were adopted from Fuchs and Karrila (2021) to allow for easier comparison with the secondary data collected in Thailand. The included sample accounts for 158 responses ($n^2=158$) from Sweden, as shown in Table 1 below.

2.3 Profile of the participants

The aggregate of both samples yielded 332 eligible responses ($n_1= 174$; $n_2= 158$) that were included for further analysis in this paper. The corresponding socio-demographic profile of the participants can be found in Table 1.

Table 1: Socio-demographic profile of respondents (summarized from surveys)

Characteristics	Thailand ($n_1=174$)		Sweden ($n_2=158$)	
	Absolute	Percent	Absolute	Percent
Gender				
Female	122	70%	76	48%
Male	52	30%	82	52%
Year of study				
First-year	49	28%	83	53%
Second-year	83	48%	49	31%
Third-year	42	24%	26	16%
Age range				
20 years or below	126	72%	90	57%
21 years or above	48	28%	68	43%
Nationality				
Local	149	86%	93	59%
Foreign	25	14%	65	41%
Preferred mode of study				
Traditional Classroom	138	79%	69	44%
Virtual Classroom	36	21%	89	56%

It can be stated that in the Thai sample, seven out of ten students were female, while the sample from Sweden contained an almost balanced distribution of gender (male=52%; female=48%). Additionally, it is noteworthy that the Thai students were younger than their peers in Sweden. In Thailand, 72% were 20 years or younger, while that number was at 57% for the Swedish students. Another notable characteristic is the preferred mode of study, wherein 79% of the students in Thailand prefer an on-site study arrangement with the traditional classroom, while 56% of students in Sweden prefer emergency remote teaching that was conducted fully virtually. Lastly, the ratio of local students to foreign students is higher in Thailand than in Sweden. 14% of the

Thai sample were foreign degree students, whereas three times as many (41%) from the Swedish sample were foreign.

3. Results and Analysis

3.1. Student perceptions about ERT by geography

The results from both surveys can be seen in Table 2, wherein the Thai sample indicates mean ratings ranging from 3.47 (No. 1) to 4.07 (No. 4). In comparison, the results from the Swedish sample range from 2.87 (No. 1) to 4.23 (No. 3). Similarly, the distribution of responses from the sample taken in Thailand is narrower, wherein the gap increases with the Swedish sample. The same observation is confirmed by the higher standard deviation (SD) noted in the empirical data compared to the secondary data from Thailand. Furthermore, independent T-tests were performed for each attribute on the assumption that « Mean2 \neq Mean3 », wherein a violation of the assumption was observed for four attributes (No. 1; No. 4; No. 6; No. 10) between both samples. Based on the ten attributes that were surveyed when students were asked to evaluate their perception of the performance of emergency remote teaching, six items ranked higher in Thailand, wherein the remaining four items ranked higher in Sweden.

Table 2: Perceived performance ratings given by students (summarized from surveys)

No.	Attribute Description ¹	Mean ²	SD ²	Mean ³	SD ³	t-value	p-value
1	The teacher begins the class with a review of the previous class	3.47	1.01	2.87	0.91	-5.714	< .001 ^a
2	The teacher presents the material in an interesting and engaging way	3.55	1.06	3.99	1.19	3.573	< .001
3	The teacher presents the material in an organized and coherent way	3.71	1.03	4.23	1.12	4.407	< .001
4	The teacher is knowledgeable about the content of the course	4.07	1.02	3.77	1.23	-2.452	0.015 ^a
5	The teacher is friendly and patient with the students	3.97	0.99	3.89	1.08	-0.643	0.520
6	The course material is well and professionally prepared	3.75	1.00	3.59	1.20	-1.363	0.174 ^a
7	The course material is easy to access in the LMS	3.84	1.01	3.82	1.11	-0.140	0.888
8	Students are engaged to actively participate in the discussion	3.76	1.00	3.89	1.06	1.127	0.261
9	I am learning something which I consider valuable	3.68	1.05	3.87	1.16	1.557	0.120
10	I am finding the course challenging and stimulating	3.52	1.22	3.44	1.38	-0.522	0.602 ^a

¹ Ratings obtained from a Likert-type five points scale ranging from lowest rating (1) to highest rating (5), i.e.

Not At All Satisfied (1), Not Very Satisfied (2), Somewhat Satisfied (3), Very Satisfied (4), and Extremely Satisfied (5)

² Mean rating of responses (mean) and standard deviation (SD) calculated from the sample taken in Thailand

³ Mean rating of responses (mean) and standard deviation (SD) calculated from the sample taken in Sweden

^a Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

The largest disagreement between both samples was noted with attribute No. 3, which asked the students to rate the performance about “the teacher presents the material in an organized and coherent way.” Students in Sweden gave a relatively high score of 4.23 and the students in Thailand rated this attribute 0.55 points lower, at 3.71. Another noteworthy result is the low mean rating for attribute No. 1, which asked the students if “the teacher

begins the class with a review of the previous class.” The responses from the Swedish sample indicate a rating of 2.87 compared to a rating of 3.47 from the Thai sample. Amongst both samples, there is an agreement that this attribute was perceived with the lowest performance in both countries (Table 2).

3.2. Student perceptions about ERT by preferred mode of study

Next, the following graphics visualize the distribution of total responses ($n=332$) based on the preferred mode of study (Figure 1), as well as the year of study (Figure 2). The same analysis was conducted for gender and age range. However, the former did not reveal any noteworthy results, wherein the latter is correlated to the characteristic year of study and displays similar results. Based on the preferred mode of study, it can be noted that students who prefer the virtual classroom (Figure 1; green line) gave a higher performance rating compared to students that prefer the traditional classroom (Figure 1; blue line). In particular, the attributes “the teacher presents the material interestingly and engagingly” (No. 2) and “the teacher presents the material in an organized and coherent way” (No. 3) received the largest deviations in responses. The students that preferred the virtual classroom expressed that they were very satisfied (4.04 and 4.18 respectively) with how the teacher presented the course material and that the material was presented interestingly and engagingly. Irrespective of their preferred mode of study, both groups of students had a relative agreement with items No. 4, No. 5, and No. 7, where the variance was less or equal to 0.10 (Figure 1). Moreover, it should be mentioned that none of the ten attributes received a mean rating below the neutral threshold, i.e., 3.00, for either group of students. Both groups of students gave the lowest performance rating for item No. 1, which asked about a review of the previous class at the beginning of each lecture. It could either be that the lecturer did not place much emphasis on this aspect, or that this action was merely neglected in both locations by the course instructor.

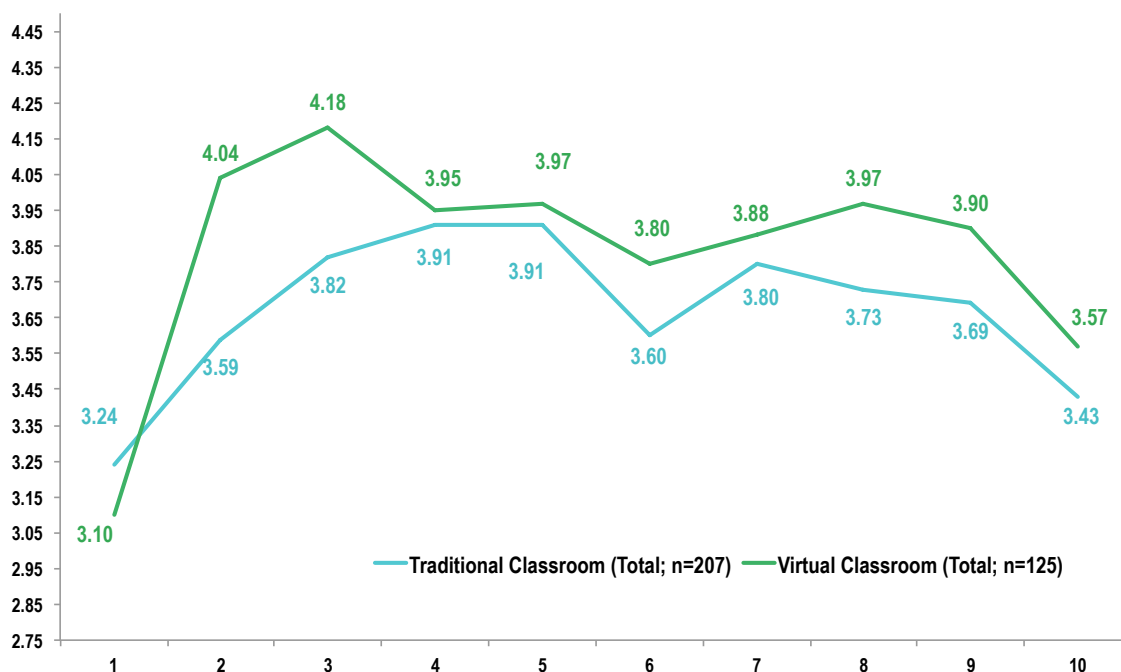


Figure 1: Comparison of responses by preferred mode of study (summarized from surveys)

It can be conclusively stated that both groups of students, regardless of their preferred mode of study, were generally satisfied with the performance of their ERT classes during the COVID-19 pandemic. A similar hypothesis was observed through a related case study, which attested “that students achieved better results under emergency remote teaching” (Iglesias-Pradas, Hernández-García, Chaparro-Peláez, & Prieto, 2021). Iglesias-Pradas et al. (2021) further claim that “the choice of delivery mode did not seem to affect students’ academic performance,” which is something this paper did not investigate. However, it could serve as a possible explanation for the relatively high approval rating for the virtual classroom by the sampled undergraduate

students in this study. The reasonably high satisfaction amongst both groups of students – those that prefer the virtual classroom as well as those that prefer the traditional classroom – validates similar case studies on emergency remote teaching (Agarwal & Kaushik, 2020) that attest to the high satisfaction of students with the alternative mode of studying.

3.3. Student perceptions about ERT by year of study

Also, there is an agreement amongst multiple attributes when grouping the responses by year of study, as shown in Figure 2. Notably, the perceived performance amongst first-year students ranks the lowest (Figure 2; red line) and increases with the year of study. Based on this observation, it can be hypothesized that students have higher satisfaction with ERT classes as they progress to the next year in their studies. A similar occurrence was already mentioned in a case study that reported first-year students' dissatisfaction with emergency remote teaching due to a lack of socialization and peer interaction (Fuchs, 2021). An Albanian case study (Xhelili et al., 2021) concluded with a noteworthy finding that suggested, "online learning cannot replace the classroom. [...] students' are not familiar enough with technology-based education". Based on this finding, paired with the results shown by *the year of study*, it could be theorized that the students become more proficient with digital technologies as they progress in their studies and, therefore, their satisfaction increases with online-based education as seen in Figure 2.

Students in the third year of study rated five out of ten items higher than 4.00, which demonstrates their high satisfaction. In opposition to this sentiment, students in the first year of their study did not rate any attribute above 4.00, while 3.88 (No. 5) was the highest-rated item corresponding to the statement "the teacher is friendly and patient with the students." Another noteworthy observation is that students in the first, second, and third year of study agreed that "the teacher begins the class with a review of the previous class" (No. 1) was perceived with their lowest satisfaction rating amongst all ten attributes. Moreover, all three groups agreed that the teacher presented the class material in an organized and coherent way (No. 3), which is reflected in their respective satisfaction ratings (Year 1 = 3.87; Year 2 = 4.00; Year 3 = 4.03).

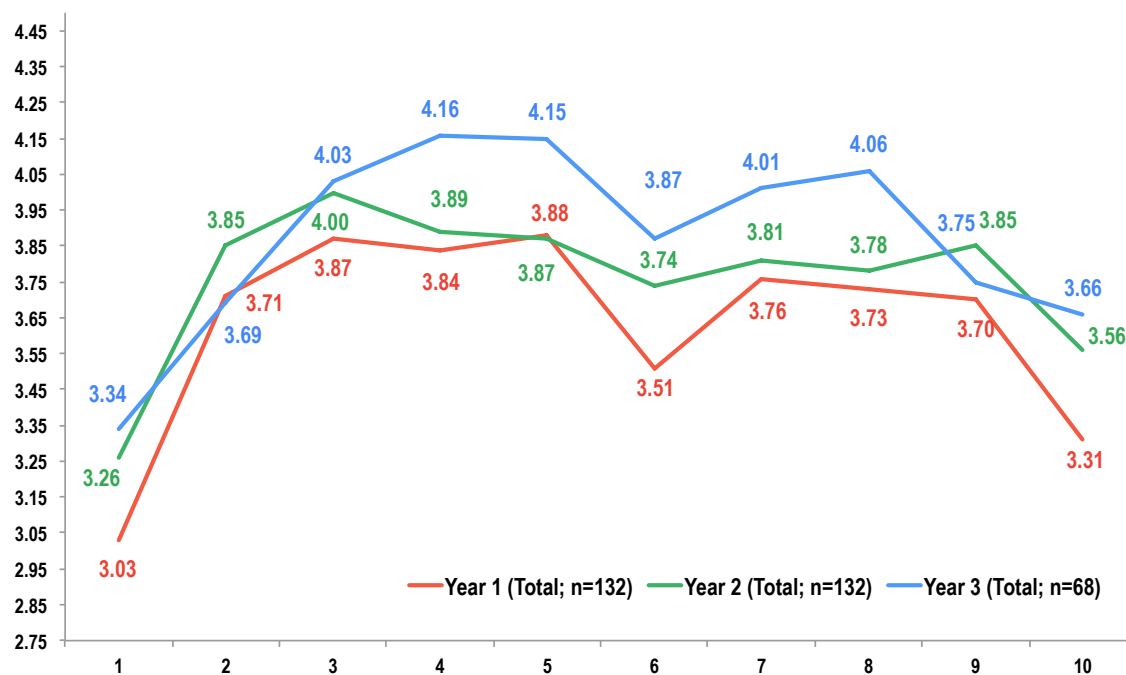


Figure 2: Comparison of responses by year of study (summarized from surveys)

Van Nuland, Hall, and Langley (2020) discovered that "universities are looking to e-learning tools to facilitate what used to be face-to-face laboratory experiences in an online environment" more rapidly due to the ongoing

pandemic. This observation could offer a possible explanation concerning the lower satisfaction ratings amongst students in their earlier studies. Most of the practice-based classes and laboratory exercises are usually held in the first and second year of study, wherein the third year is more theory-based with the development of applied concepts. Notably, none of the student groups gave a very high satisfaction rating for finding the course challenging and stimulating (Year 1 = 3.31; Year 2 = 3.56; Year 3 = 3.66).

4. Conclusion and Future Works

The outcomes that were revealed as the result of this study were threefold: Firstly, students in Thailand and Sweden are generally satisfied with the perceived performance of their respective emergency remote teaching. Furthermore, students that prefer the virtual classroom during ERT gave higher satisfaction ratings compared to students that prefer a traditional classroom arrangement before COVID-19. Finally, first-year students appear to be less satisfied with emergency remote teaching than their older peers. The study revealed that as the year of study progresses, the perceived satisfaction with emergency remote teaching increases. As noted by Barbour et al. (2020) in their technical review about emergency remote teaching, “the threat of COVID-19 has presented some unique challenges for institutions of higher education”. Therefore, it is not too farfetched to assume that educators and students wish to move beyond the current impacts of this global pandemic. With little doubt, this is a stressful circumstance and, when it is over, universities will be able to determine how well they were able to apply ERT to maintain instructional continuity. Plenty of research has been conducted over the last months since the initial outbreak of COVID-19 in January 2019. Even though emergency remote teaching does not occur regularly, it is safe to assume that some regions in the world will be confronted with it again at some point in time. This research has raised more questions than it has provided answers. Thus, more research into this issue of student perceptions related to emergency remote teaching should be carried out with the implication to increase the preparedness and quality in the near future.

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