A Qualitative Assessment About Emergency Remote Teaching (ERT): A Case Study in Higher Education

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ABSTRACT

Online education, in its various modes, has been growing steadily worldwide due to the influence of new technologies, global adoption of the Internet, and intensifying demand for a workforce trained periodically for the ever-evolving digital economy. Well-planned online learning experiences are meaningfully different from courses offered online in response to a crisis or disaster. Higher education institutions working to maintain instruction during the COVID-19 pandemic should understand those differences when evaluating emergency remote teaching (ERT). Online distance education involves more than just uploading educational content; instead, it is a learning process that provides learners with support, responsibility, flexibility, and choice. Henceforth, the research aimed to examine undergraduate students' (n=238) perceptions about their preferred mode of learning during COVID-19. The paper identified a significant reluctance towards emergency remote teaching from first-year students. The paper also qualitatively investigated the underlying reasons through thematic analysis. The themed findings were (1) lack of social interactions, (2) difficulties staying engaged while studying from home, and (3) technological boundaries related to the students' Internet connections in rural areas. The paper concludes with recommendations that aim to provide institutions and educations with practical guidance on how to tackle the outlined issues.

KEYWORDS: Online Education, Emergency Remote Teaching, COVID-19, Higher Education

1   INTRODUCTION

Online education is on track to become mainstream by 2025 (Palvia et al., 2018). Furthermore, Palvia et al. (2018) state that the ubiquity of information technology has been influencing almost all aspects of our lives: the way we work, interact with others, process data into information, analyze and share information, entertain ourselves, and enjoy tourism. Due to the threat of COVID-19, colleges and 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 moving fast and not well understood. Many institutions have opted to cancel all face-to-face classes, including labs and other learning experiences, and have mandated that faculties move their courses online to help prevent the spread of the virus that causes COVID-19. The research is guided by the following objectives:

(1) To examine if undergraduate students' support or oppose emergency remote teaching
(2) To investigate undergraduate students' perceptions toward emergency remote teaching

2   EMERGENCY REMOTE TEACHING

The list of institutions of higher education deciding to cancel face-to-face teaching and replace it with emergency remote teaching has been growing each day; it includes institutions of all sizes and types (Affouneh, Salha & Khlaif, 2020). We have now seen that the education system, in general, is unprepared and vulnerable to external threats. As a response to the global education crisis, online emergency remote teaching has been put into practice. However, we stumble in defining that which we are desperately trying to accomplish. It is a complex process that requires careful planning, designing, and determination of aims to create an effective learning ecology (Themelis & Sime, 2020). The temptation to compare online learning to face-to-face instruction in these circumstances will be great. Online learning carries a stigma of being lower in quality than face-to-face learning, despite research showing otherwise. These hurried moves online 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 will truly be designed to take full advantage of the affordances and possibilities of the online format (Palvia et al., 2018; Themelis & Sime, 2020).

Online education, including online teaching and learning, has been studied for decades. Numerous research studies, theories, models, standards, and evaluation criteria focus on quality online learning, online teaching, and online course design. What we know from research is that effective online learning results from careful instructional design and planning, using a systematic model for design and development. The design process and the careful consideration of different design decisions have an impact on the quality of the instruction. It is this careful design process that will be absent in most cases in these emergency shifts (Arora & Srinivasan, 2020). In contrast to experiences that are planned from the beginning and designed to be online, emergency remote teaching (ERT) is a temporary shift of instructional delivery to an alternate delivery model due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses. Furthermore, the vast majority will return to that format once the crisis or emergency has abated. The primary objective in these circumstances is not to re-create a robust educational ecosystem, but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and reliably available during an emergency or crisis. When

we understand ERT in this manner, we can start to divorce it from online learning (Arora & Srinivasan, 2020).

3   METHODOLOGY

Convenience sampling was used to collect the data sample at a renewed university in Southern Thailand. The data was collected from undergraduate students that were enrolled as full-time degree students. A self-administered online survey was utilized to collect the responses during January 2021, amid the time students were studying remotely as a consequence of the global pandemic. The bi-lingual survey was offered in English and Thai. During the initial screening process, two responses were discarded due to incomplete data. A socio-demographic profile was established (Table 1) based on the responses deemed valid (n=238). The socio-demographic profile allowed categorization into gender, year of study, age range, and nationality. In addition to the socio-demographic profiling questions, the participants were asked a series of questions related to their experiences concerning emergency remote teaching. These responses were not accounted for in this particular paper. After answering a 20-item Likert-type survey, the participants were asked two questions that were analyzed in this paper. The nature of the first question was closed-ended and asked the participants if they prefer learning (1) in a traditional classroom, i.e. an on-site classroom, or (2) in a virtual classroom, i.e. n online classroom, based on their current experience. The nature of the second question was open-ended and asked the participant to substantiate in less than 100 words.

Table 1: Participants' socio-demographic profile

Characteristics	Male	Female	Total
Year of Study (n_1=238)			
First Year	10	45	55
Second Year	31	57	88
Third Year	16	34	50
Final Year	39	6	45
Age Range (n_2=238)			
18 year or below	-	9	9
19 – 20 years old	34	95	129
21 – 22 years old	21	54	75
23 years or above	8	17	25
Nationality (n_3=238)			
Thai	44	150	194
Foreign	19	25	44

In the three-step analysis, a clustered column chart (Figure 1) was firstly created. In the subsequent step, a word cloud (Figure 2) was created based on the qualitative data that was collected through the open-ended question, filtered to include only responses from female first-year students. Thematic analysis, as the last step, concluded the analysis. The qualitative data was assigned codes and relevant themes derived from the analysis. The word cloud and column chart helped to visualize the responses, as well as allowed the narrowing of focus for the thematic analysis.

4 THEMED RESULTS AND DISCUSSION

4.1 Preliminary Analysis

The clustered column chart visualizes the preferred mode of studying, clustered by year of study and sliced by gender. The percentage shows how many of the respondents prefer to study in a virtual classroom as opposed to a traditional classroom; the rating was therefore labeled as agreement rating with virtual studying. Furthermore, the chart shows us that students in their first year have the lowest agreement rating (3.6%) with learning in a virtual classroom, wherein students in their final year have the highest agreement rating (42.2%). Subsequently, 30.7% of students in their second year prefer the virtual classroom compared to a traditional classroom, while 20.0% of third-year students favor virtual classrooms.

It can be generally noted that one third (33.3%) of male students prefer to study in a virtual classroom, while the corresponding result for females is approximately two out of ten (21.1%). A particular finding is that none of the first-year female students prefer to study in a virtual classroom, while their male counterparts received a 20% rating on the same question. The students were asked which mode of studying they would prefer, which in essence does not necessarily mean that they disliked the second choice. However, putting the preferred mode of study into perspective together with the qualitative data, it suggested that the female first-year students have a strong reluctance towards emergency remote teaching.
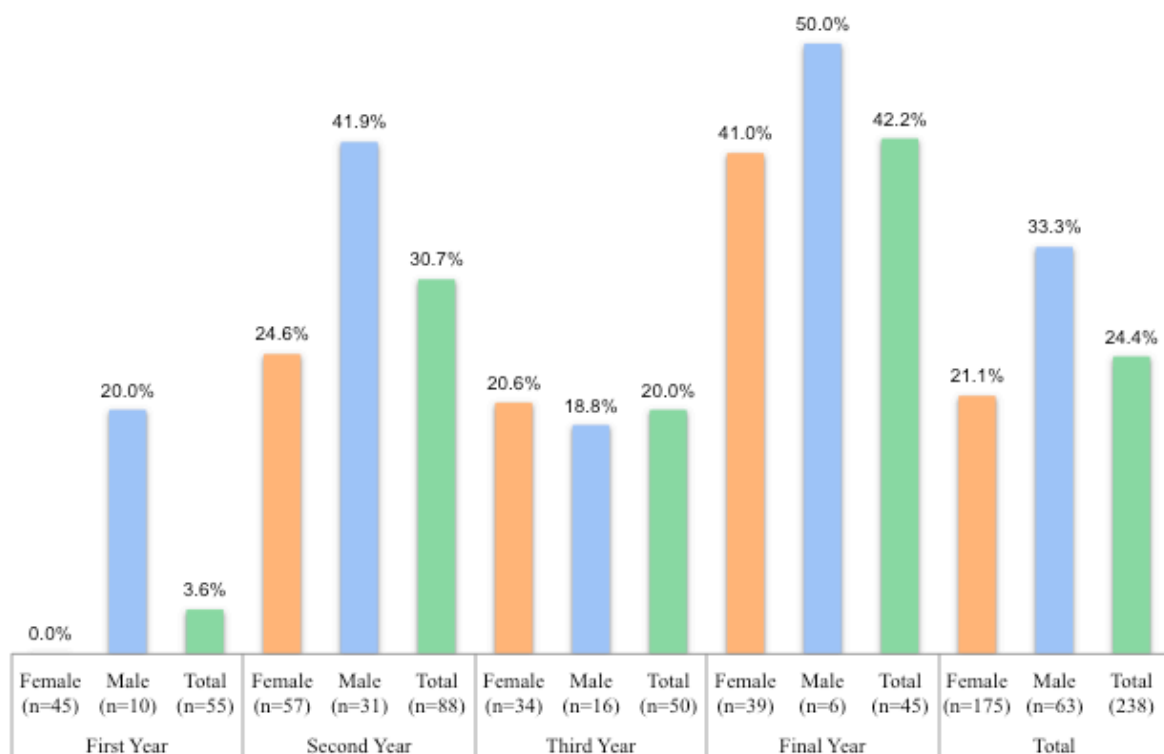
Figure 1: Respondents' preferred choice of study: agreement rating with virtual studying

In the second step of the analysis, the qualitative data from the female first-year students – that collectively prefer the traditional classroom – were examined. Based on the responses (n=45) in the open-ended questionnaire, a word cloud (Figure 2) was created to select keywords for further analysis. The only modification was the removal of stop words, which in this case included words such as "that", "this", "and", "because", "which", or "the".

The size of the words in the cloud is correlated to the frequency of their occurrences in the questionnaires. It can be noted that the most common word was "online" with 23 occurrences, followed by "study" (16), and "learning" (14). While these three words do not offer any particular insight, the words following the top three offered more perspective with regards to the students' perception towards emergency remote teaching. As seen in the cloud, the words "focus," "distracted," "understandable," "boring," "friends," "focused," and "enthusiastic" provide little value without proper context. However, they offered a first lead in the thematic analysis, which was conducted as the subsequent step.

Figure 2: Word cloud based on responses from female first-year students

4.2   Deficiency of social interactions

Irwin and Berge (2006) define social interaction as a significant factor in knowledge acquisition when peer collaboration occurs. It was noted on multiple occasions that students criticized the lack of social interactions with both their peers and teachers. A student stated, meeting with other students "makes students enthusiastic about their studies. (No. 29)". Although there is an abundance of research that supports the original idea of Piaget's constructivism theory (Harlow, Cummings & Aberasturi, 2007), the lack of social interactions between freshmen students could potentially lead to the deterioration of their academic performance (García-Ros, Pérez-González, Cavas-Martínez & Tomás, 2017). A statement from one student summarizes the social dilemma and predicament: "[I want to] be with friends and not need to feel alone (No. 41)". Another student shared a similar sentiment by expressing "I hope to get in-class learning soon (No. 5)". The basic idea of the constructivism pedagogy sees knowledge acquired through interaction with peers. Rather than through a top-down hierarchy, knowledge is "passed on" as if from mentor to mentee. "Being able to talk and exchange knowledge with friends (No. 29" and "meeting with friends and teachers makes learning more fun and understandable (No. 14)" were representative statements from the majority of the students. The lack of social interaction could lead to deteriorated knowledge acquisition and the worsening of students' academic performances.

4.3 Student engagement in web-based learning

Student engagement relates to the time and physical energy that students spend on activities in their academic experience. Furthermore, engagement pertains to the efforts of the student to study a subject, practice, obtain feedback, analyze, and solve problems (Robinson & Hullinger, 2008). Student engagement is a well-researched theme, in particular when it comes to web-based education. Many of the findings relate to student engagement or the lack thereof. Many of the students stated that their experience during the emergency remote teaching was "boring" and they were easily distracted. One participant stated, "online learning is boring. The teachers are boring in some subjects [...] makes me sleepy and easily distracted. (No.13)". Furthermore, participant no. 32 added, "Online learning is not as understandable as studying in the classroom". The sentiment of these quotes is shared amongst the large majority of students. A possible explanation is offered by the statement from another student, which noted "studying in the (traditional) classroom is like getting some exercise, such as traveling to the gym (No. 7)". There is a strong desire from the students to study in a physical classroom and receive more engaging content, which in turn makes studying online more interesting. One possible indication with regard to the lack of engagement is offered in a study conducted by Prestridge and Cox (2021). Prestridge and Cox (2021) note that collaborative activity supports cognitive engagement. In emergency remote teaching, the shift from traditional classroom teaching to virtual education occurred overnight; educators might find themselves in a situation where more time and effort is spent on adjusting to the new technological environment than actively engaging students in this new learning environment (Arora & Srinivasan, 2020). After all, these exceptional circumstances are new for educators and students alike. As one participant noted, "studying online and learning nothing (No. 23)" should not be regarded as an optimal learning outcome – regardless of the circumstances. Thus, allowing these shortcomings to be openly addressed and discussed with the students might help to improve the learning experience for students and teachers, ultimately increasing student engagement.

4.4 Technological Challenges

Information and Communication Technology (ICT) were already an important part of the traditional classroom. The use was firmly embedded in everyday classroom activities ranging from student response systems (SRS) and learning management systems (LMS) to collaborative group work through cloud-based solutions such as Google Slides or Google Docs (Azmi, 2017). Furthermore, ICT can impact student learning when teachers are digitally literate and understand how to integrate it into the curriculum. Based on the findings from the open-ended questionnaire, more than half of the students expressed their concern with digital communication in the virtual classroom. For example, one student stated, "it is not easy to ask when I am not understanding something No. 11" or "it is more convenient to exchange ideas in the traditional classroom No. 33)". While different types of research suggest that ICT can help students to collaborate online and provide ease to communicating with peers and the teacher (Azmi, 2017; Goh & Sigala, 2020), the findings are in contradiction to these studies. A possible hint about the underlying reason is the connectivity to the Internet, wherein a large number of students complained about a "disruptive connection that impacts their learning experience." However, even if considering that a stable Internet connection is a necessity for a seamless virtual classroom experience, there is still an ambiguity amongst students with regard to communicating amongst each other in the virtual classroom, as highlighted by the following finding that is representative for many similar results: "I miss the opportunity to chat with teachers and have a more helpful atmosphere to study than online (No. 25)".

5 CONCLUSION

The paper established three themes that outline potential challenges for higher education first-year students and contributed to the body of knowledge in the emerging paradigm of emergency remote teaching in online education. No research is without limitations and, consequently, the results of this paper are bound to first-year students at the undergraduate level. Furthermore, the findings of this paper are not generalizable to a larger population. However, they offer stakeholders an important perspective regarding where to put the immediate focus in times of crisis. If hybrid learning is applied to reduce the number of students on-site in a crisis, it is recommended to consider the year of study when determining quotas for on-site classes. In particular, first-year students struggled more with virtual studying than their older peers. Secondly, it was noted that institutions and stakeholders should consider technological requirements when converting fully online. Lastly, student engagement is a reoccurring theme; particularly during emergency remote teaching, it was outlined that student engagement levels appeared low. It would be recommended to determine student engagement during emergency remote teaching and the overall effectiveness of ERT.

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