(8) 2 (2021) 107-119

# OBSTACLES TO ONLINE LEARNING FOR THAI UNIVERSITY STUDENTS IN THE ERA OF COVID-19 CRISIS

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#### Abstract

As a precaution against the spread of the COVID-19 epidemic, most educational systems across the world have transited to online learning. This incident is generating a lot of obstacles and challenges for students; particularly in developing countries. Thailand is a country has been affected by this phenomenon. This paper attempts to describe the obstacles to online learning for Thai university students as a result of the COVID-19 crisis. Based upon descriptive qualitative research approach, forty university students were purposively and conveniently selected for the research study. The collected data were analyzed using a content analysis technique. The findings revealed the five major themes of the obstacles to online learning: technology, learning and instruction, communication, finance, health and well-being. This study will be of benefit of efficient transforming traditional learning to online learning or any remote education of schools and universities as well as research area of educational technology and development for future sustainability.

Keywords: obstacles, online learning, universities, Thai, COVID-19 crisis

### Introduction

The coronavirus disease (COVID) 2019 crisis has had a significant influence not only on the world's economic, psychological, and social elements, but also, to a large extent, on the educational sector (Verschuur, Koks, & Hall, 2021; Josephson, Kilic, & Michler, 2021; Pokhrel & Chhetri, 2021).

The virus, which initially appeared in December 2019, became a pandemic, forcing school closures and, finally, the transfer of all levels of educational institutions to online learning in the new normal education (Dhawan, 2020).

As a result, the traditional delivery of teaching in education has changed, and learning environments have been rearranged. To meet the challenge of developing educational delivery mechanisms in higher education, colleges and universities around the world have brought Emergency Remote Education (ERE) as an educational and pedagogical mode of delivery (Toquero, 2021).

It is a momentary shift in teaching triggered by the unexpected development of a crisis. ERE does not imply abandoning the existing teaching method or establishing an entirely new educational system. It provides a temporarily viable option for educators to execute instruction and give required instructional assistance to students (Hodges et al., 2020).

ERE is also a derivative of distance learning, but in times of crisis it is considered an "option" rather than an "obligation" (Bozkurt et al., 2020).

In addition, ERE provides full advantage of available resources, including the various technologies that provide distance learning capabilities. In this case, it should also be emphasized that ERE is the best term to describe education during this turmoil and is not the same as the previous distance learning modality (Bozkurt et al., 2020).

In view of the present COVID-19 crisis, World Bank (2020) highlighted that ERE is required to be utilized for education system and prepares different learning methods to facilitate learning for students to participate and endure learning.

Conversely, the abrupt shift in educational delivery demonstrates the inverse trend for most students, who were already disadvantaged prior to the epidemic. According to UNESCO (2021), school and university closures have affected more than 1.5 billion students of all ages worldwide.

Shutdowns have excessively impacted students. With the goal of providing education as a fundamental human right, educational systems throughout the world were once again pushed to devise new strategies to instantly sustain education initiatives (UNESCO, 2020). However, this does not take into account providing answers to the challenges of each individual learner. In general, the education system is spur-of-the-moment and may have unanticipated repercussions during and after the crisis (Bozkurt & Sharma, 2020).

In the meantime, after the government of Thailand declared "social distancing" policy, the Ministry of Education (MOE) issued a strict regulation to schools and universities to commence online learning. As a result, all higher education institutions across the country have been obligated to close indeterminately (Lao, 2020).

Classes at several universities have begun in the last few months before emergency of the pandemic, and online learning has encountered numerous obstacles (Mateo, 2020), which have proven tough for Thai university students to handle. The COVID-19 crisis also increasingly indicates administration and management of Thai government which has been dramatically disappointing due to long corrupted politics and economic recession. (Ludpa, 2016) resulting in the lack of sufficient financial support from the government for the transition to online learning of students.

Besides, not every student can afford or adapt to the rapid change of technological development in today's digital era (Alvarez, 2020), particularly in developing nation.

Online learning indicates a digital gap among students in developing countries (Santos, 2020). This presents that state of online learning may aggravate existing disparities and create obstacles.

For instance, in the context of Thailand, most students seem to struggle with online learning; that is, of the 310 university students, 64.51% have communication problems when studying online. In addition, 80.65% of them find it easy to get distracted when studying online (Imsa-ard, 2020). In addition, 83.87% of students faced technical issues such as application flaws and lack of internet access, including 70.97% of them feel that online learning did not reinforce their motivation at all (Imsa-ard, 2020).

Even in a big metropolis like Bangkok, many school and university students face a significant lack of basic resources, educational materials, and insufficient access to internet services for online learning (Lao, 2020).

Apart from this, Thai university students engaging in online learning encountered additional online learning obstacles.

Recent research studies have been undertaken in order to reveal tension and obstacles confronted by students from online learning (AlAteeq, Alijhani, & AlEesa, 2020; Baloran, 2020; Matswetu, et al., 2020; Subedi et al., 2020).

Bozkurt et al. (2020) investigated how the COVID-19 pandemic disrupted global education. The research reported extensively on thoughts, lessons gained, and recommendations for navigating education in the time of emergency.

This study aims to study the obstacles faced by Thai university students in the context of a developing country in order to assist authorities in establishing superior educational solutions.

If this query is addressed, lessons can be learned and potentially appropriate actions can be taken when it comes to online learning in the aftermath of the COVID-19.

## Methodology

This section presents the methods used in this study. It includes the research design, research sample, data collection, and data analysis. They are discussed as follows.

## **Research Design**

This research used a descriptive qualitative research approach. This research design was suitable for this study since it endeavoured to provide a

description of obstacles to online learning of university students in Thailand during the COVID-19 new normal era.

## **Research Sample**

Forty university students were purposively and conveniently selected based upon their ability and connectivity to provide necessary information during the period of the conduct of this research. Besides, participants were selected notwithstanding their genders, ages, courses, years of study, monetary status, as well as geographical locations.

## **Data Collection**

The data were collected using online survey method through Google Form between March 2 and March 9, 2021. The online survey in this research comprised open-ended questions concerning the obstacles to online learning of students amidst the time of the COVID-19 crisis.

The online survey in this research was firstly carried out by requesting the consent of the target participants. Then they were explained that their involvement was not mandatory due to the current situation and stressed that their identity will remain anonymous including their responses will be analyzed once they participate in the research. The link to the online survey was posted via emails of students.

## **Data Analysis**

The collected data were analyzed using a content analysis technique. The process of content analysis in this research pertained to stages of repeated exploration of the collected data.

The transcripts downloaded from all participants' responses were firstly organized. The raw data were then intensively analyzed to provide the initial identification of the relevant codes.

These codes were transferred into an independent file. They were constantly evaluated identifying their similarities and differences and finally grouping them. Based upon a series of similar codes, themes were developed and structured to provide answers for the research question.

## Results

This research was guided by its objective to describe the obstacles to online learning of university students in Thailand amidst the COVID-19 new normal era. This section presents 5 main themes of online learning obstacles as follows. The result is presented in Figure 1.



Figure 1. The Five Main Themes of Online Learning Obstacles.

### Theme 1: Technology

One of the most recurring obstacles to online learning encountered by the students is unsteady internet connection. Several times, this problem is caused by poor or weak internet connection signal ("I live in a rural area so it is difficult for me to find a stable internet signal. Of course, it is hard for me to follow the activities in Zoom or Microsoft Team meetings" -P17).

At other times, students lack of technological device for their study. ("I would need a laptop or PC to achieve my assignments" -P23).

Moreover, technological competency of students is inadequate. ("I lack the capability to apply technology to facilitate my online learning efficiently" - P04).

## Theme 2: Learning and Instruction

Most of the time, obstacles to online learning encountered by students are related to learning and instruction. Students face the problem on how hard they have to try to understand the lesson ("I try to listen to the Microsoft Team but cannot understand the lesson" -P12) since the instructions are vague. ("Some instructions are not clear to me" -P08) and this causes students' confusion ("Additional explanations are required to avoid confusion" -P32).

Due to the time constraints to online learning, several in-class activities are assigned. ("I am overloaded with so many tasks from different courses" - P24).

Students feels that tasks designated are overwhelming and impede their learning outcome ("Study time is wasted and is ended up without any lesson learned" -P18).

#### Theme 3: Communication

Communicational obstacles are regarded as one of obstacles to online learning. It affects peer to peer communication. Online learning leads to poor communication of students during their group discussion. ("My team keeps silent and turns their laptop cameras off while in a meeting" -P29).

Besides, approaching to their teachers when needed is totally obstructed ("I keep in touch with my professors in many ways but it is ruined" -P22). It causes big problems especially on the examination and submission of assignments. It devours students' motivation in their online learning as a result of student-teacher communication.

#### Theme 4: Finance

Obstacles to online learning students encountered is also placed with financial support. Online learning requires internet"charges ("I need a financial demand to internet access for online courses" -P09).

Desperately, students though try hard to overcome the challenge, they cannot owing to the current set of circumstances ("Due to the epidemic, I face economic challenges to support learning needs" -P35) and this finally becomes additional burden of parents ("I still rely on parents since there is no job added" -P16).

### Theme 5: Health and Well-being

Regarding physical obstacles, students always stick to their electronic devices to complete their study contributing to deteriorating health ("I pay fully attention to my laptop for all day long to keep track with the task and activities. It hurts my eyes and causes eye fatigue" -P07).

Most of the times, students are deprived of sleep to wait for a high speed internet late night ("I have to delay my submission until midnight for 5G signal" -P10).

Plus, online learning impacts students' psychological health. Students mentally suffer from online learning. They are required to rely more on themselves and it frequently causes psychological impact ("I need someone to talk to. Some certain tasks are too difficult and make me feel uncomfortable" – P02).

Additionally, online learning gets students earn less confidence for their examination preparation. ("I occasionally experience lack of confidence to review all lessons before examination" –P25).

### Discussion

The key findings came from robust research methodology regarding data collection and analysis. They also met the central objective of this research: the obstacles to online learning of university students in Thailand amidst the COVID-19 new normal era.

According to the research findings, students have suffered a significant disadvantage as a result of the abrupt shift in education from traditional on-site learning to online learning. Whereas universities have had significant success in implementing online learning systems for their students, it has been noted that most universities' shift to a new educational paradigm has not been wellorganized.

Regarding technological obstacles, a shaky internet connection is regarded as one of the most significant challenges that students face when engaging in online learning. This is in line with preceding research that a strong internet connectivity has a huge impact on online learning. (Wisconsin, 2020).

Aboagye, Yawson, & Appiah (2020) pointed out that poor network is a frequent issue in developing nations with inadequate telecommunications and information and communication technology (ICT). Despite the fact that there are several internet packages available in the nation, they are fluid and not produced similarly in terms of speed and reliability (Saminathan, 2020).

In the interim, the findings of the research by Henaku (2020) support another finding of this study that students face a variety of challenges, including a lack of suitable learning materials. This finding could imply that students are unable to fully engage in and profit from online learning.

This also supports the findings that accessing to online learning equipment such as laptops has been a reoccurring issue for students as a transition to online learning in the midst of a global health crises. (Ferri, Grifoni, & Guzzo, 2020).

One of the obstacles students face while learning through online classroom is that they lack of technological competency with unfamiliar online platform application. This is in line with the previous research by Rasheed et al. (2020) that technological implementation and competency play a vital role in online learning especially during the wake of new normal era.

Regarding learning and instructional obstacles, the findings show that obstacles to online learning faced by students are pertain to learning and instruction. Equivocal learning content and ambiguous instruction get many students confused.

Even though online learning has been used as a mode for learning and instruction during the global pandemic, learning content is still stick to traditional on-site learning. This reveals that teachers' experience on online learning is totally significant (Chen et al., 2020) since it can help out the obstacle their students encounter. This notion is also congruent with Burgess & Sievertsen (2020) that the instructional design would meet the online learning platform.

Besides, overwhelming learning activities and tasks are assigned. This is corresponded with Sundarasen et al., (2020) that teachers requires several tasks and assignments which are overloaded for students to complete. According to Sarvestani et al. (2019), they also support the findings that designated tasks are occasionally excessive and obstruct learning outcome of students.

Regarding communicational obstacles, online learning contributes to low level of communication among student communication specifically their group discussion. Students tend to sit still and do not engage with their peers in the discussion activities. This is consistent with the findings by Chung, Noor, & Mathew (2020) that students avoid asking questions and sharing thought in their online discussion.

Furthermore, research findings by Baticulon et al. (2020) and Sarvestani et al. (2019) showed that students struggle to cope with online learning due to deprived peer communication. This also supported the findings that COVID-19 lockdowns caused a lack of communication among students in online platforms (Gaur et al., 2020).

Besides, students face difficulties approaching to their teachers when learning online. It demolishes students' motivation in their online learning as a result of student-teacher communication. This finding is confirmed by that of Alawamleh, Al-Twait, & Al-Saht (2020) that online learning contributes to the lack of enthusiasm, less communication between students and teachers, and a sense of seclusion.

Regarding financial obstacles, online learning necessitates the use of the internet. Students attempt to conquer the obstacles, but they are unable to do so owing to the new normal circumstance, which becomes an additional strain for parents. This finding is consistent with Adle (2020) that financial difficulties for impoverished households began to intensify during the pandemic crisis and economic shutdown.

Besides, the research finding by Azhari and Fajri (2021) supported that financial circumstances of student families do not assist online learning, such as a lack of funds to acquire internet data and instruments to facilitate online learning.

Regarding health and well-being obstacles, another issue that students are concerned about is their poor physical and psychological conditions. As regards physical health, students spend nearly the whole day and night attending online classes and completing exercises. This is in line with Sundarasen et al., (2020) that spending super-long period of time on online learning dramatically increases stress levels of students.

As regards psychological health, the finding concurs with that of Tandon (2020) that COVID-19-related mental health concerns such as despair, tension, and nervousness have a negative influence on students' motivation to online learning.

#### **Conclusion and Recommendation**

This paper attempted to describe the obstacles to online learning of university students in the context of the Thailand amidst the COVID-19 crisis.

Based upon the research findings, five major themes were revealed: technology, learning and instruction, communication, finance, health and well-being.

These findings offer context for the multiple obstacles university students in a developing country face in the light of the existing global crisis.

It is recommended that these obstacles of online learning should be regarded as contributions for the government to reform the national education act in order to efficiently develop educational system; place strategies for administration and management specifically financial support, international collaboration, stakeholder cooperation, community alliance; and get ready for coping with future uncertainties.

Besides, it is recommended for educational institutions throughout the nation to plan institutional strategies and policies, reorganize structure of institutions, reshape curriculum and instruction, and prepare training programs for educational human resources. These will potentially meet the scholarly need of students, including fully assist and develop students learning; particularly for remote learning and education.

University administrators should also take steps to improve student assistance in all areas. Teachers should examine their instruction, learning materials, and class activities, as well as students' physical and psychological concerns.

Finally, parents should take an active role in determining their children's learning time and space. They should also provide all essential support so that students can lastly survive this remote education in the midst of the crisis.

As this research has presented the obstacles to online learning in a university of Thailand. Therefore, future research studies for other contexts are strongly recommended.

### References

Aboagye, E., Yawson, J. A. & Appiah, K. N. (2020). COVID-19 and e-Learning: The challenges of students in tertiary institutions. Social Education Research, 1(1), 109-115. https://doi.org/10.37256/ser.122020422

Adle, C. (2020, April 01). COVID-19 and the Poverty Pandemic. Retrieved from https://philippines.oxfam.org/latest/blogs/covid-19-and-poverty-pandemic

AlAteeq, D. A., Alijhani, S. & AlEesa, D. (2020). Perceived stress among students in virtual classrooms during the COVID-19 outbreak in KSA. Journal of Taibah University Medical Sciences, 15(5), 398-403. https://doi.org/10.1016/j.jtumed.2020.07.004

Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2020). The effect of online learning on communication between instructors and students during Covid-19 pandemic. *Asian Education and Development Studies*. Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/AEDS-06-2020-0131

Alvarez, A. V. (2020). The phenomenon of learning at a distance through emergency remote teaching amidst the pandemic crisis. Asian Journal of Distance Education, 15(1), 144-153. https://doi.org/10.5281/zenodo.3881529

Azhari, B., & Fajri, I. (2021). Distance learning during the COVID-19 pandemic: School closure in Indonesia. International Journal of Mathematical Education in Science and Technology, 1-21. https://doi.org/10.1080/0020739X.2021.1875072

Baloran, E. (2020). Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. Journal of Loss and Trauma, 25(8), 1-8. https://doi.org/10.1080/15325024.2020.1769300

Baticulon, R. E., Alberto, N. R., Baron, M. B., Mabulay, R. E., Rizada, L. G., Sy, J. J., Tiu, C. J., Clarion, C. A. & Reyes, J. C. (2020). Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines. medRxiv. https://doi.org/10.1101/2020.07.16.20155747

Bozkurt, A. & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. Asian Journal of Distance Education, 15(1), 1-6. https://doi.org/10.5281/zenodo.3778083

Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., ... & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. Asian Journal of Distance Education, 15(1), 1-126. https://doi.org/10.5281/zenodo.3878572

Burgess, S. & Sievertsen, H. H. (2020, April 01). Schools, skills, and learning: The impact of COVID-19 on education. Retrieved from https://voxeu.org/article/impact-covid-19-education

Chen, T., Peng, L., Yin, X., Rong, J., Yang, J. & Cong, G. (2020). Analysis of user satisfaction with online education platforms in China during the COVID-19 pandemic. Healthcare, 8(3), 1-26. https://doi.org/10.3390/healthcare8030200

Chung, E., Noor, N. M., & Mathew, V. N. (2020). Are you ready? An assessment of online learning readiness among university students. International Journal of Academic Research in Progressive Education and Development, 9(1), 301-317. https://doi.org/10.6007/IJARPED/v9-i1/7128

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. Journal of Educational Technology, 49(1), 5-22. https://doi.org/10.1177/0047239520934018

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 86. <u>https://doi.org/10.3390/soc10040086</u>

Gaur, R., Mudgal, S. K., Dharni, I. T., Sharma, R. & Suyal, N. (2020). Barriers encountered during online classes among undergraduate nursing students during COVID-19 pandemic in India. International Journal of Research

in Medical Sciences, 8(10), 3687-3693. http://dx.doi.org/10.18203/2320-6012.ijrms20204252

Henaku, E. A. (2020). COVID-19 online learning experience of college students: The case of Ghana. *International Journal of Multidisciplinary Sciences and Advanced Technology*, 1(2), 54-62. ทานถั่วไม่มี"doi"จันละใส่"url แทน Retrieved from https://www.researchgate.net/publication/5647: 892; \_COVID-

3; \_Online\_Learning\_Experience\_of\_College\_Students\_The\_Case\_of\_Ghana Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The Difference between Emergency Remote Teaching and Online Learning. EDUCAUSE Review. Retrieved from https://er.educause.edu/articles/2020/3/the-difference-between-emergencyremote-teachingand-online-learning

Imsa-ard, P. (2020). Thai university students' perceptions towards the abrupt transition to "forced" online learning in the COVID-19 situation. *Journal of Education Khon Kaen University*, 43(3), 30–44. Retrieved from https://so02.tci-thaijo.org/index.php/EDKKUJ/article/view/242970

Josephson, A., Kilic, T., & Michler, J.D. (2021). Socioeconomic impacts of COVID-19 in low-income countries. Nat Hum Behav, *5*, 557–565. https://doi.org/10.1038/s41562-021-01096-7

Lao, R. (2020, May 01). Pandemic is exposing the gaps in Thai education. Bangkok Post. Retrieved from https://www.bangkokpost.com/opinion/0pinion/1910956/pandemic-isexposing-the-gaps-in-thai-education

Ludpa, Y. (2016). Corrupt problems in the Thai education system. Association of Private Higher Educations Institutions of Thailand, 5(1), 66–76. Retrieved from http://apheit.bu.ac.th/jounal/Inter-1-2559/p66-76-Yuvares-Ludpa.pdf

Mateo, J. (2020, October 5). As Classes Open, 'Learning Crisis' Highlighted with Millions of Students Left Behind. Retrieved from https://www.onenews.ph/as-classes-open-learning-crisishighlighted-with-millions-of-students-left-behind

Matswetu, V. S., Munakandafa, W., Munodawafa, V. & Mandoga, E. (2020). Science student teachers' challenges and coping strategies in an open and distance learning environment in Zimbabwe. Makarere Journal of Higher Education, 4(2), 125-137. https://doi.org/10.4314/majohe.v4i2.

Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. Higher Education for the Future, 8(1), 133–141. https://doi.org/10.1177/2347631120983481

Rasheed, R. A., Kamsin, A., & Abdullah, N. A. (2020). Challenges in the online component of blended learning: A systematic review. Computers & Education, 144, 103701. https://doi.org/10.1016/j.compedu.2019.103701

Saminathan, V. (2020). Problems of Online Classes. International Journal of Academic Research Reflector, 9(6), 1-3. https://doi.org/10.6084/m9.figshare.13573550.

Santos, A. P. (2020, October 6). In the Philippines, distance learning reveals the digital divide. Retrieved from https://eu.boell.org/en/2020/10/06/philippines-distance-learning-reveals-digital-divide

Sarvestani, M. S., Mohammadi, M., Afshin, J. & Raeisy, J. (2019). Students' experiences of e-Learning challenges: A phenomenological study. Interdisciplinary Journal of Virtual Learning in Medical Sciences, 10(3), 1-10. https://doi.org/10.30476/IJVLMS.2019.45841

Subedi, S., Nayaju, S., Shah, S. K. & Shah, J. M. (2020). Impact of e-Learning during COVID-19 pandemic among nursing students and teachers of Nepal. International Journal of Science and Healthcare Research, 5(3), 68-76. https://ijshr.com/IJSHR\_Vol.5\_Issue.3\_July2020/IJSHR0012.pdf

Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G. M., Khoshaim, H. B., Hossain, S. F. A. & Sukayt, A (2020). Psychological impact of COVID-19 and lockdown among university students in Malaysia: Implications and policy recommendations. International Journal of Environmental Research and Public Health, 17(17), 6206. https://doi.org/10.3390/ijerph17176206

Tandon, R. (2020). COVID-19 and mental health: Preserving humanity, maintaining sanity, and promoting health. Asian Journal of Psychiatry, 51, 102256. https://doi.org/10.1016/j.ajp.2020.102256

Toquero, C. M. (2021). Emergency remote education experiment amid COVID-19 pandemic. IJERI: International Journal of Educational Research and Innovation, *15*, 162-176. https://doi.org/10.46661/ijeri.5113

UNESCO (2020, May 29). The socio-cultural implications of COVID-19. Retrieved from https://en.unesco.org/news/socio-cultural-implicationscovid-19

UNESCO (2021, March 18). Supporting learning recovery one year into COVID-19: The Global Education Coalition in Action. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000376061

Verschuur, J., Koks, EE., & Hall, JW. (2021) Global economic impacts of COVID-19 lockdown measures stand out in high-frequency shipping data. PLoS ONE 16(4): e0248818. https://doi.org/10.1371/journal.pone.0248818

Wisconsin (2020, May 7). The online learning experience – a WIUC international student perspective. Retrieved from https://wiuc-ghana.edu.gh/the-online-learning-experience-a-wiuc-internationalstudent-perspective/

World Bank (2020a). Remote Learning and COVID-19: The use of educational technologies at scale across an education system as a result of massive school closings in response to the COVID19 pandemic to enable distance education and online learning. Retrieved from http://documents.worldbank.org/curated/en/2668115 84657843186/pdf/ RapidResponseBriefing-Note-Remote-Learning-and-COVID-19-Outbreak.pdf