Understanding The Concept of Online Learning in Distance Learning amidst COVID-19 Crisis: Challenges and Opportunities

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Abstract

COVID-19 pandemic caused educational institutions to cancel regular on-campus classes and coerced them to inaugurate online learning with enhanced technology. This study aimed to explain how the concept of online learning implemented as distance learning or Pembelajaran Jarak Jauh (PJJ) amid the pandemic. This study used a qualitative method with a literature study. Findings revealed that the concept of online learning amidst pandemic as a crisis-response and emergency migration method is different from new online learning. Emergency remote learning (ERL) has challenges and opportunities. The biggest challenge is logistics and internet connectivity. Onward, government, telecommunication companies, along educational institutions shoulder cooperate and develop internet infrastructure throughout the country as PJJ will be the new basis in the envisioned future.

Keywords: COVID-19, distance learning, emergency remote learning, online learning, PJJ

INTRODUCTION

Coronavirus disease (COVID-19) has caused unexpected changes in the culture of people around the world. The health emergency due to COVID-19 that began in China is spreading swiftly to copious countries, impacting many central functions and essential services. In March 2020, the World Health Organization (WHO) divulged COVID-19 as a pandemic based on a valuation of its brisk spread with the ferocity of the pernicious virus worldwide; this following recommendation for social distancing policies way to slow the escalation of the virus [1]. Furthermore, WHO warned the possibility of the existence of the coronavirus for a long time and conditions would return to normal if a vaccine founded. However, even if a vaccine has been found and approved, there will be significant challenges to produce it in sufficient quantities for the world's population [2]. Currently (early November 2020), the number of coronavirus cases globally has reached 51,987,635, with a death toll of 1,281,426. The number of coronavirus cases nationally is 448,118, with a death toll of 14,836 (COVID-19 Dashboard by CSEE at Johns Hopkins University, 2020).

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So far, the percentage of cases and death rates due to COVID-19 worldwide and in Indonesia continues to increase.

The introduction numerous countries in the world have developed anomalous preventive limits to manage and break the chain of COVID-19, such as Movement Control Orders (MCO) or Pembatasan Sosial Berskala Besar (PSBB) and physical closure of the business sector, community events, sports activities, and schools globally and encourages institutions to reconsider to online platforms. In Indonesia, the Movement Control Order (MCO) or Pembatasan Sosial Berskala Besar (PSBB) was put into effect in March 2020 as an endeavor to curl the proliferation of COVID-19. Republic of Indonesia Government Regulation No. 21/2020 states that the MCO or PSBB includes transferring teaching and learning activities to homes; this applies to education at the primary level to higher education. The closure of schools or educational institutions locally in several provinces, for example, DKI Jakarta, Central Java, Banten, West Java, and Aceh, began on March 16, 2019, while nationally, it began on March 23, 2019 [3]. The closure of schools nationally impacted 60.2 million students and 2.3 million educators who studied or taught in 425,451 educational institutions from early childhood to higher education [4].

The introduction of Government policies related to the closure of educational institutions encourages a rapid conversion in consequence traditional learning activities (face-to-face

interaction) to distance learning (PJJ) using a Learning Management System (e-learning and e-tools) approach or video conferencing [5]. Online learning uses the internet and several other vital technologies in developing material in the furtherance of educational basis [6], and in practice, online learning can be through synchronously or asynchronously.

In the circumstances of COVID-19, the implementation of PJJ requires participants to own access to a computer or laptop and an adequate and sustainable internet link. Notwithstanding that most can undertake so, some learners have to portion one piece of apparatus with others; other students may have deficient data plans or unstable internet connection. These aspects are a precondition for online learning and video conferences in routine learning activities in pandemic COVID-19 [7]. Distance learning activities (PJJ) with a package of reliability and adequate technology infrastructures, such as learning instruments and digital learning reservoirs, are crucial. The ability to use and manage technology, information and communication (ICT) literacy for both parties (students and teachers) is no less important during this crisis [8]. With PJJ technology, teachers should have the exclusion to do their best, inspire, express critical thinking, provide contextual feedback, provide creative answers, assess, and support students [9]. However, the COVID-19 pandemic has resulted in new things in the world of education (including higher education), which usually take years to formulate due to differences and managerial regulations, now must be presented quickly in a limited time [10]. Veritably teaching conception need to be adapted to emergencies; this shows that the crisis of COVID-19 is proving to be a significant inducement for the digitization of teaching [11].

Looking at the various descriptions above, understanding online learning as an inevitable emergency transition in distance learning (PJJ) during school closures is indispensable because it will impact policies, actions, and approaches that the government must take educational institutions other related parties. For this reason, this paper will examine the implementation of online learning in distance learning amid the COVID-19 pandemic and the challenges and opportunities that accompany it.

MATERIAL AND METHOD

This research used qualitative methods with a post-positivist approach that consisted of a desk study of the traditional literature review. The method of collecting data is from literature studies on various scientific reports, news, publications, and other relevant data related to online learning as a transition and emergency response during the COVID-19 crisis. By conducting a literature study, the author hopes that will get theories and thoughts that are relevant to the problem of online learning as an emergency response to the COVID-19 crisis and the challenges and opportunities that follow so that they can use as reference material in conducting analyzes related to how educational institutions carry out online learning in distance learning amid a pandemic situation.

Data Collection

The author traced and obtained secondary database sources from websites such as the US American Distance Education Association (USDLA) related to distance learning, the Ministry of Education and Culture of the Republic of Indonesia (Kemendikbud) official website, COVID-19 Dashboard by CSEE at Johns Hopkins University for the development of COVID-cases. 19, as well as the EDUCAUSE Review website related to online learning and emergency remote learning (ERL). Also, the author used secondary data sources for scientific articles (journals) indexed by Scopus on online learning, distance learning, and emergency remote learning (ERL), with the majority of the time limit between 2019 and 2020.

RESULT AND DISCUSSION

Holmberg [12] defines distance learning or PJJ as terminology that includes all study methods at classifications of education without direct including continuous supervision, where the tuitional process is under the planning directed by educational organizations and institutions. The American Association for Distance Learning (USDLA) [13] adds that distance learning (PJJ) is the activity of procuring knowledge and skill utilizing various media in order to achieve education and information conveyance, including all types of technology and various forms of education for distance learning. Many people consider distance learning a new educational classification because it adopts a different method from conventional education. Round

numbers of various practice used to bear information to students, not only reliance on one pedigree as in traditional education, for example, versatility in admission and academic work, as students can obtain their tutelage anytime, anywhere with frugality on expenses, because this category of education is usually cheaper than dissimilar education complex [14]. PJJ is a pedagogic affair that entails communication allying educators and students through innumerable media (internet) and educative through present-time audio-visual communication technology [15].

Online learning is the use of technology and internet devices for education [16]. It can also define as an enlightenment experience in an asynchronous or synchronous environment across incompatible devices (for example, tablets, mobile phones, laptops). Tallent-Runnels et al. [17] add that since the beginning of the millennium, the continuous multiply in technological metamorphosis and internet intelligibility has increased the determination for online learning; however, Joshi et al. [18] dissolved that the accomplishment of online learning is still debated because of the absenteeism of face-to-face interaction between students and instructors. Meanwhile, Hodges et al. [19] distinguish well-propositioned online learning from a methodology presented online in response to the COVID-19. It can surmise that these researchers call it in the time of current pandemic the term "emergency distance learning" or Emergency Remote Learning (ERL) because ERL is different from eminence contemporary online learning.

Effective online learning is the product of careful learning design and planning with an organized prototype to design besides developing learning [20]. Bozkurt and Sharma [21] add that the indicators of effective online learning consist of an increase in sundry research works, guidelines, blueprints, ethics, and presumptions. Adedoyin and Soykan [1] emphasize that the absence of a careful design and evolution in the migration process has resulted in resistance to the idea of equal online learning amid the COVID-19 crisis with contemporary online learning that is effective but more as an emergency distance learning.

Aristovnik et al. [22] have surveyed a comprehensive web-cored questionnaire of 30,383 respondents from 62 countries and consists of 39 questions, most of which are closed questions. These questions include

geographic characteristics, socio-demographic, various particulars of students' lives such as work, online academics, social and emotional life, changes in habits, role and size of institutions, and individual backscattering on COVID-19—the questionnaire selected into seven fragments. The first part consists of eight questions about students' socio-demographic and academic characteristics, for example, countries and study institutions in several continents in the spring semester of 2020, a field of study, nationality, and gender. Based on the results of the first part of the questionnaire in the survey Aristovnik et al. (2020), the authors processed this data by simplifying the number of questions for the socio-demographic and academic characteristics of students from eight questions to four without changing the original version (see Table 1) to focus on the percentage of conventional learning activities (on-campus or onsite classes), which canceled due to the school closure policy amid the COVID-19 crisis.

Table 1. The survey respondents.

No	Socio-Demographic & Geographic Characteristics	Number (%)
1	**Canceled Onsite Classes**	
	Yes	22,758 (86.7)
	No	3486 (13.3)
2	**Mainland**	
	Africa	2621 (8.6)
	Asia	7212 (23.7)
	Europe	13,629 (44.9)
	North America	2381 (7.8)
	Oceania	171 (0.6)
	South America	4369 (14.4)
3	**Level of Study**	
	First	23,986 (80.5)
	Second	4408 (14.8)
	Third	1386 (4.7)
4	**Disciplines**	
	Arts and humanities	2998 (10.2)
	Applied sciences	9157 (31.1)
	Natural and life sciences	6392 (21.7)
	Social sciences	10,878 (37.0)

Sources: The data processed by the author based on a survey by Aristovnik et al. (2020)

According to the data presented above, globally, as many as 86.7% of respondents are students of higher education (higher education), with the more prominent part of respondents coming from Europe (44.9%), followed by Asia - including Indonesia - (23.7%), South America (14.4 %), Africa (8.6%). North America (7.8%) and

Oceania (0.6%) reported that conventional learning had annulled due to the COVID-19. Consequently, some forms of online learning must be implemented immediately as an emergency transition. The most dominant form of online learning activities throughout the COVID-19 is a synchronous approach through real-time video conferencing, followed by an asynchronous approach; send presentations, video recordings, and written promulgations using the forum and chat features. Several educational institutions have developed and implemented a Learning Management System (LMS) using open source software such as Moodle, Blackboard, BigBlueButton, Blackboard Collaborate Ultra (BCU), VLE (Blackboard 9.1), Schoology before the COVID-19 crisis. This open software application is beneficial in the digital transformation of learning, but this is not enough to anticipate learning during the pandemic.

Figure 1. Emergency Remote Learning Mapping in Indonesia.

The distribution of materials (teacher presentations, practice questions) is carried out asynchronously or synchronously through the Learning Management System (LMS) used in the school or educational institution. Reading e-books and e-journals and learning from YouTube and documentary films is most experienced by students. Usually, teachers will provide YouTube links or learning materials in scientific articles, e-books, PowerPoint presentations to their students and ask them to study the videos and materials and make reviews or report summaries. E-Books, E-Journals, and YouTube videos are used to help explain learning about the subject or provide instructions. Whatsapp groups are also a popular option in material distribution, question and answer interactions,

and coordination related to learning. Zoom, google meet, Microsoft teams are several platforms for video streaming in teaching practice sessions, discussions, and group presentations, especially for higher education.

Some countries may use different applications from other countries depending on the level of familiarity or even culture. In China, besides Zoom Cloud, DingTalk, and WeChat Work (see Table 2) which products domestically made [23], are more popular than Whatsapp, which may be preferred in Indonesia and Malaysia [24].

Table 2. Platform use before and after the COVID-19 crisis in China

No	Platform	Before COVID-19	After COVID-19
1	DingTalk	1061	74,981
2	Tencent Meeting	1438	3970
3	WeChat Work	1022	959
4	Shaoxing	800	5319
5	MOOC	930	1819
6	TIM	500	400
7	ZoomCloud	560	800

Sources: Chen et al., 2020:7

In Sweden, most teachers use Google Classroom and specialized learning platforms like Skolplattformen to distribute semester plans, schedules, assignments. However, several teachers, especially at the early, primary, and secondary levels of education, still rely on physical materials for students to collect at school or send by post and expedition (see Figure 2).
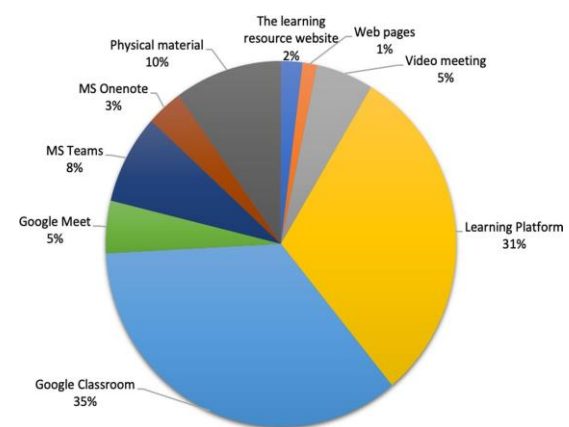

Figure 2. Emergency Remote Learning Mapping in Sweden.

The same thing happened to primary education in Indonesia. In addition to digital platforms such as video, Worksheets, Google Form, WhatsApp, Zoom, and YouTube as media for distributing instructions, some teachers also send the assignment to parents of students, which are then given to students [25]. Meanwhile, in Germany, one of its universities (Chemnitz University of Technology) has begun to choose a new teaching method called a hybrid campus by optimizing the use of the BigBlueButton LMS platform and combining it with a holistic approach [11].

In ERL, documentation in the form of video streaming of material, teaching, and discussion sessions is usually stored on Google Drive storage or specific LMS storage and can be accessed at any time. During an emergency transition, the assessment and testing of the majority of educational institutions and the existing learning management system or online tools also use Turnitin regarding plagiarism checks. Examination implementation in the COVID-19 is converted into an online and open book (asynchronous and synchronous) using video conferences applications (Zoom, Google Meet, Microsoft Teams, WebEx, VLE), sometimes questions and answers to Multiple Choice Questions (MCQ) or Essays can Do it directly on Google Form or the LMS used, you can also submit answers, depending on the instructor's instructions. When the test takes place synchronously, students are asked to turn on the camera; this is apart from being ethical and monitoring to avoid cheating; students are asked not to use the microphone so that the virtual class session is not disturbed unless they want to ask questions. One university in Qatar (College of Pharmacy at Qatar University) even uses a remote online exam monitoring platform like ExamMonitor offered by ExamSoft. This digital surveillance system allows continuous audio and video monitoring as long as students undergo the exam, especially during the ERL period [5]. However, this is not without problems because there are factors such as internet connection disconnection in the middle of the test, it could be due to network problems at the service provider, incompatible devices, or natural factors such as heavy rain, snow, storms, or remoted locus which caused synchronous remote testing to be disrupted and this event occurred in almost all countries amid the COVID-19 crisis. New environmental factors (studying at home) and the situation can also be an obstacle to ERL.

The research [22] states that isolated learning activities at home usually require greater self-discipline and stimulation to take online classes, especially amid COVID-19. On the other hand, teachers unfamiliar with advanced methods during the ERL can encumber their students with learning substances and assignments; this (heavy workload) dramatically affects students' academic performance. At a global level, student workloads increased in Oceania (59.8%), Europe (58.0%), and North America (54.7%), while in South America, Asia, and Africa, study workloads decreased (see Figure 3). Based on the survey, the main challenges are undeveloped Internet networks, lack of experience and use of ICT-related equipment (technology, information, communication), and the fact that the only device approachable for engaging in virtual class is a mobile phone [26]. Although they have adapted quite well to ERL, students at the university level find it more challenging to focus, while others (some social science graduate students) have improved their academic performance during the pandemic [22].
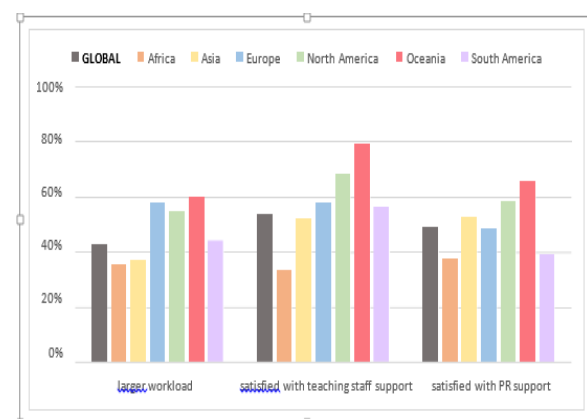
Figure 3. Changes in Study Workload Amid COVID-19.

WHO policy on social distancing globally has forced educational institutions at all levels to close schools (schools closure). Currently, school closings in various parts of the world are still taking place temporarily, but it is not sure when the closure of these schools will end considering that the death rate from COVID-19 continues to increase while vaccines are still in the testing phase and, of course, must go through various procedural stages for ready to use.

This unexpected disruption situation left schools and educational institutions with no choice but to shift their learning activities to a distance learning platform immediately.

However, this migration also brings several challenges, and one of the main problems is that migration has generated mandatory changes in the vantage point of edification administrators, teachers, and students about the importance of online learning [27].

Before the COVID-19 crisis, teachers, students, and education administrators had various options in interactions related to learning activities according to the convenience and digital competencies they had because each individual's ICT literacy skills were different [28], especially in most educational institutions in developing countries that are not or not yet equipped to handle digital education transformation [1] fully. Now central learning has suddenly moved to distance learning, where most of the syllabi are not designed for use online or for distance learning schemes. It requires rapid handling and response as a changeover from onsite classes to digital teaching configurations and demonstrates that the COVID-19 is a momentous accelerator for the digitization of teaching.

Challenges

Emergency distance learning (ERL) has several challenges, one of which is logistical and infrastructure challenges. The dependence of ERL on technology and the internet is a big challenge for institutions, faculty, teachers, and students. Based on Adedoyin and Soykan's (2020) personal communication with D. Yates (March 17, 2020), responding to a question posted on platform Research Gate by John R. Yamamoto-Wilson, a retired professor from Sophia University, about the effects of Covid-19 and ERL revealed that students with outdated technological utensils might find it challenging to converge some of the applied prerequisites of online learning, refer to an example of a student who wished to take a midterm electronic quiz using Respodus. This student could not download the browser after several tries, and it turned out that he was using an outdated device that was incompatible with the browser. It is undeniable that students with low socioeconomic backgrounds, especially in developing countries, will find it challenging to resettle as early as possible during the COVID-19 crisis. This is reinforced by the research findings of Fishbane and Tomer [29], which state that with the increasing level of poverty in society, the level of internet accessibility decreases rapidly, and the implication is that students with low socioeconomic power or unable to buy quotas or broadband connections are the most vulnerable to being left behind during the ERL. In Indonesia itself, the Ministry of Education and Culture (Kemendikbud) has launched a policy of giving free education quota to students, teachers, students, and lecturers by registering cellphone numbers in the Ministry of Education and Culture's Basic Education Data (Dapodik). This policy has been implemented in September 2020 to date and is a subsidy for internet quota assistance during ERL amid the COVID-19 crisis. In addition to the free quota, Kemendikbud also issued a policy in the form of a Minister of Education Decree Number 719/P/2020 regarding Guidelines for Implementing Curriculum in Education Units in Particular Conditions or the emergency refers to the national curriculum. However, this policy has not targeted higher education (higher education), only at the early, primary, and secondary education grades. It does not target all schools but schools that are affected by special conditions (disaster or pandemic areas). So far, higher education (HE) in Indonesia still refers to the independent campus policy (student-centered).

Opportunities

Emergency distance learning (ERL) during the COVID-19 crisis may not be the most ideal, so solutions are needed, such as optimizing learning through existing technology and emerging technologies along with the intensification function of the Internet of Things (IoT). It is even feasible to replace expensive computer paraphernalia with solutions based on smartphones (smartphones). Online learning itself has advantages such as flexibility and interactivity. Mixed learning, also known as blended learning, is expected to make learning more efficient by integrating technology-based learning with traditional learning [4]. The blended learning teaching format has been used even before the COVID-19 crisis [11], so that this format is still considered inappropriate as a learning solution during the pandemic period. The idea of blended learning, which can have some validities that customarily insinuate combining digital and real-life teaching components, has been denounced for indeterminate [30]. Skulmowski and Rey [11], in their research state, that the concept of a hybrid campus or hybrid campus, more precisely multimodal learning on a hybrid campus, is the right solution not only to be applied during the COVID-19 crisis but also on an ongoing basis.

Multimodal learning is a learning setting that targets more than one sensory modality. While antecedent conformations of online learning (including blended learning) engrossed in allowing literature, providing materials, assignments, tests, and handing out support (usually via text messages), multimodal embodiments of learning and teaching are becoming gradually more relevant. It is also like confirming the article written by Bao [31] on the effects of COVID-19 at Peking University, China, where the article emphasizing factors that are often neglected, such as the speaker's voice, body language, additional social aspects that are hard can be channeled through a typical form of text-based e-learning. In other words, to find sensible long-term resolutions, learning accompanied by advanced technological innovations still involves a holistic approach that combines physical together with social aspects.

CONCLUSION

Emergency remote learning (ERL) requires an understanding of the relationship between online learning and distance learning. New online learning has a foundation of adequate planning, design, and instruction with several available theories and models, while ERL amid the COVID-19 crisis does not have these things. Thus, online learning as an emergency response switch during a pandemic cannot be equated with contemporary online education. ERL's success not only depends on the dimensions of technology literacy, information, communication (ICT), and digital competence alone; cultural and socioeconomic factors also affect. Therefore, it is necessary to support and continuous networking efforts between the government, educational institutions, service providers (telecommunication providers), and the business sector. Going forward, the government, telecommunications companies, and educational institutions must work together and develop internet infrastructure across the country as online learning will become the new norm in the future.

This conceptual study is expected to understand online learning in distance learning (PJJ) as an Emergency Remote Learning (ERL) amid the COVID-19 crisis. However, further study and research are needed to be related to ERL. The factors that affect its success, appropriate learning approaches or concepts, and possible innovations to continue higher quality online learning still require a holistic approach that combines physical and social aspects.

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