E-Learning Implementation during The COVID-19 outbreak: The Perspective of Students and Lecturers

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Abstract

COVID-19 pandemic outbreak is not only affecting human health, but it is also affecting other aspects of human life. In the education sector, the recommendation of health authority in many countries has forced the education sector to find an alternative to face-to-face delivery methods. In this critical situation, the smooth and easy alternative to face-to-face education is distance learning. Distance learning or e-learning becomes increasingly gain popularity in higher education. Even though e-learning is a hot topic, e-learning is still more of a supplement to education in normal conditions. During COVID 19 outbreak in Indonesia, almost all universities in Indonesia are delivering a lecture through e-learning. This is a good opportunity to find out what student’s perceptions of e-learning. This study aimed to see what students like and dislike about e-learning and what were their preferences after experiencing un-intentioned e-learning. A qualitative study using questionnaires as an instrument was conducted to University Students at 4 campuses in Greater Jakarta, Indonesia. They were asked to answer the question about their e-learning experiences, what they like, and what they dislike. One hundred fifty-three questionnaires were analyzed. The finding of the study showed that things that students like about e-learning, were it is flexible; can be done anywhere; easy and less time consuming; and relax. The things that they dislike were an unstable internet connection; unclear lecture deliver; less interaction with lecturers and friends; and cannot ask a question in detail or discuss. Most students still preferred to have face-to-face mode compared to e-learning. This study contributes to e-learning literature. This study also contributes to e-learning practice.


Introduction

At the end of 2019, COVID-19 was beginning to spread worldwide. Rapidly it became a pandemic. This worldwide spread outbreak does not only give an impact on human health, but it is also impacting other aspects of human life, including the education sector (Huang et al., 2020). In many countries, the recommendation of health authorities forced the education sector to find an alternative to face-to-face delivery methods. In the case of disruption, the learning process should be undisturbed (Huang et al., 2020).

The one best and easy alternative is to change from regular face to face classes to online classes. The distance learning method may be the best option for students in a forced situation (Basilaia et al., 2020). "School’s Out, but Class is on" is the campaign of the Chinese government during the COVID-19 epidemic. This COVID outbreak has incidentally increased the awareness and adoption of currently available technology in education (Goh & Sandars, 2020). Understanding student’s assessment of e-learning is critical to predicting the effectiveness of e-learning. During COVID 19 outbreak in Indonesia, almost all universities in Indonesia are delivering lectures through e-learning. Almost all students and lecturers are experiencing the e-learning process. The mobility restriction because of the COVID-19 pandemic can be good timing to review students’ perceptions about e-learning.
The growing ubiquity of the internet and further evolution of the internet, has given a new method option for students in pursuing their education (Pham et al., 2018). E-learning, as a new method in teaching, is gradually used in education at all levels. E-learning has become more popular now. Universities are now moving their focus to have more web-based methods in delivering education material (Pham et al., 2018). A survey in the US in 2015 showed that the number of students taking online classes is increasing from 3.7% to 3.9%. One in four students takes at least one online course in one year. Sixty percent of academic leaders consider that e-learning will be important for long term growth (Chakravorti, 2019).

Even though e-learning is a hot topic, e-learning is still more of a supplement to education (Zhou et al., 2020). It is understood that e-learning gives both students and universities, however, the major concern of the distance learning method is the quality and the effectiveness of the learning process. This study wants to see what students like and dislike about e-learning after they experience unintended e-learning. Since most of the students are initially have no intention of e-learning, it is interesting to know what is their preference after experiencing both traditional face-to-face methods and e-learning.

**Literature Review**

**E-learning**

E-learning is an internet-enabled teaching method. E-learning is a formal approach to learning where students and lecturers interact indirectly using internet-based infrastructure (Pham et al., 2018). E-learning is also known as online learning and distance learning. E-learning is defined as "learning experiences in synchronous or asynchronous environments using different devices (e.g., mobile phones, laptops, etc.) with internet access" (Huang et al., 2020). E-learning is seen as "an innovative approach in delivering education services through the electronic platform to advance knowledge, skills, and other learning outcomes. In these environments, students can be anywhere (independent) to learn and interact with instructors and other students" (Singh and Thurman, 2019) (Huang et al., 2020).

The growing ubiquity of the internet and further evolution of the internet, has given a new method option for students in pursuing their education (Pham et al., 2018). E-learning, as a new method in teaching, is gradually used in education at all levels. With technology advancement, learning can be maximized to provide a high-quality course that gives students options of time, place, and pace and experiencing different learning experiences (Huang et al., 2020).

E-learning has become more popular now. Universities are now moving their focus to have more web-based methods in delivering education material (Pham et al., 2018). A survey in the US in 2015 showed that the number of students taking online classes is increasing from 3.7% to 3.9%. One in four students takes at least one online course in one year. Sixty percent of academic leaders consider that e-learning will be important for long term growth (Chakravorti, 2019). Experts have predicted that the "residential based model" of learning will disappear in the near future (Shachar & Neumann, 2010). There are many indications that e-learning will keep proliferating as many other internet advanced applications are used in the process (Pham et al., 2018).

E-learning offers benefits both to universities and students. The benefits for universities are such as substantial cost saving related to the investment of physical teaching and learning infrastructure. It also helps the universities to contribute to a digital and knowledgeable society. It also helps universities in providing global education services. For students, e-learning provides education which is not limited by time and space. It can be done at home, at work, or anywhere via computers or mobile devices. It gives students more options, flexibility, and convenience. E-learning students can control the pace and rhythm of their study.
However, the major concern of the distance learning method is the quality and effectiveness of the learning process. There are four domains of course work delivery: (1) student attitude and satisfaction, (2) interactions of students and faculty, (3) student learning outcomes, and (4) faculty satisfaction (Shachar & Neumann, 2010). With lack of interaction and direct communication, the satisfaction and the effectiveness of e-learning might not be achieved.

E-learning system quality is known to be the most important dimension of overall e-learning service quality (Pham et al., 2019). E-learning method heavily depends on technology. Perceived ease of use is an important determinant for satisfaction and intention to continue studying (Dwidienawati et al., 2020; Hsu, 2014; Roca et al., 2006; Shao, 2020). Another important factor in system quality is connectivity. The other major drawback of e-learning is the overdependence of technology. They need a good internet connection. At the same time, the complicated program will also be an obstacle to an effective online lecture (Basilaia et al., 2020). Most e-learning studies were conducted in developed countries, where connectivity is good and the price of technology is cheap. In a developing country, such as Indonesia, unstable connectivity can influence students' satisfaction and this can be one of the obstacles of e-learning success.

The other major concern is the effectiveness of e-learning. The ideal effectiveness of e-learning should be the evaluation of the academic performance of the student. The available studies prove that e-learning is effective. There are no significant differences in course scores, student engagement, and student satisfaction between online and offline learning methods (Manion, 2019). This claim is proven by the majority of academic research (Chakravorti, 2019). A Metaanalysis of 125 studies also indicates that distance education not only is comparable to the traditional face-to-face method but also, can outperform traditional instruction (Shachar & Neumann, 2010). Regardless, the result of the studies on the effectiveness about e-learning and how it is a hot topic, e-learning is still more of a supplement to education (Zhou et al., 2020). Still, the majority of students prefer to have face-to-face learning methods.

COVID-10 outbreak does not only give an impact on human health, but it is also impacting other aspects of human life, including the education sector (Huang et al., 2020). In many countries, the recommendation of health authorities forced the education sector to find an alternative to face-to-face delivery methods. In the case of disruption, the learning process should be undisrupted (Huang et al., 2020).

The one best and easy alternative is to change from regular face to face classes online. The distance learning method may be the best option for students in a forced situation (Basilaia et al., 2020). “School’s Out, but Class is on” is the campaign of the Chinese government during the COVID-19 epidemic. This COVID outbreak has incidentally increased the awareness and adoption of currently available technology in education (Goh & Sandars, 2020). E-learning offers advantages efficiency, flexibility, and convenience (Chakravorti, 2019). It allows students to study anywhere, anytime. Students can easily access the lecture material. It does not require any commuting (Basilaia et al., 2020).

However, studies show that interaction and communication between students and teachers are important factors for student engagement and performance. Student-instructor interaction is one of the most important factors of student perceived learning and e-learning satisfaction (Marks et al., 2005). Timely response and feedback also increased satisfaction (Holsapple & Post, 2006). E-learning is a lack of those factors compared to the offline method. Therefore, interaction and responsiveness play important role in e-learning satisfaction.

Intention to e-learning has been known to be an important determinant of successful e-learning. In this study, all the students are regular students who are forced to shift to e-learning due to mobility restrictions to prevent the spread of COVID-19.
Research questions of this study:
With the forced shifting to e-learning situation, are the student satisfaction with the e-learning experience?
What do they like about e-learning?
What don’t they like about e-learning?
Which learning method do they prefer?

Material and Method

This study aims to see and compare the perception of students and lecturer to e-learning program which is implemented to all universities in Indonesia. This study was a descriptive qualitative study, using a questionnaire as the instrument. To understand the student and lecturer satisfaction level and the perception of e-learning which has been forced to them, a survey was conducted in March 2020 and in July 2020. Open question

The survey was conducted to students at 4 universities as respondents. Those universities were one in Bogor, one in Jakarta, and two in Tangerang, Indonesia. All students were originally regular face-to-face students who were forced to shift to the e-learning method due to the COVID-19 outbreak. Those students previously did not have any intention to do online learning.

Result and Discussion

One hundred fifty-three questionnaires were eligible for further analysis. From 153 respondents 99% were between 17-23 years old (Figure 1). There were 61% male, 37% female, and remaining chose not to answer. Almost 84% were from Campus in Tangerang and 11% were from Bogor (Figure 2). Eighty percent of the respondent were in 1st -2nd semester and 11% were a 3-4th semester (Figure 3). Sixty-seven percent of students were originated from Greater Jakarta and thirty-three persons were from other locations in Indonesia (Figure 4).
From 3 statements to rate satisfaction level which include statements “e-learning is a useful learning experience”, “e-learning has met my expectation” and “overall satisfaction”, the mean score was 4.0 and standard deviation 1.11. It meant that all respondents only slightly agreed that they were satisfied with the e-learning experience.
The most likable thing about e-learning was its flexibility. Sixty respondents or 25% mentioned flexibility. “Flexible time; it can be done at home; the assignment was easier”. The second most likable thing was that e-learning can be accessible from anywhere (55 mentioned or 21%). Followed by e-learning was less time consuming, it was easy to use and it was more relax (Figure 5). Saving cost, use, and can multitasks were also reasons why respondents like e-learning. Table 1. Showed other likable answers that were collected from the questionnaires.

Figure 6 showed the rank of items that students dislike about e-learning. Students claimed that internet connection WAS the biggest drawback in their e-learning process. "Internet connection is not good; the material conveyed is more difficult to understand; it uses more internet connections”. Around 50 respondents were complaining about internet issue and it was account for 20% to total items that they did not like about e-learning. The second issue was teaching delivery. In terms of teaching delivery, they mentioned several issues. First because of the connectivity students could not hear the content of the lecture. Second, they felt it was hard to understand if they did not see the lecture directly. Because the
lecturers did not see nonverbal communication, they did not have any clue that students did not understand. The third one was the technology literacy of lecturers which could interrupt the class session. The third one was they could not ask a detailed answer to a question. Assignment, teamwork, and interaction were also items that they did not like about e-learning. Table 1 and 2 showed respondents statement about what they liked and disliked.

**Table 1. What Students Like about E-learning**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Details</th>
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<tbody>
<tr>
<td>Its flexible; it can be done at home; the assignment given is easier</td>
<td></td>
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<tr>
<td>I have more spare time; I do not have to go to campus</td>
<td></td>
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<tr>
<td>It is more flexible; I can have more time to review the answers of the assignment</td>
<td></td>
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<tr>
<td>Saving money; No need to buy gasoline to go to campus; do not have a preparation, I can be online directly via cell-phone / laptop; Class duration is shorter than F2F</td>
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<tr>
<td>I can study and learn at home; I have plenty of time to work on assignments and more relaxed</td>
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<tr>
<td>I have more time to learn other things; I have time to find out more about problems that from discussion topic; I have more time to explore the other development that I am interested in</td>
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<tr>
<td>Flexible hours, fast learning, always updated</td>
<td></td>
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<tr>
<td>It is easily accessible anywhere, anytime; it is flexible and the application and program are easy to understand</td>
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<td>There is no fix schedule; I do not have to travel and come to campus; the material delivered to my house; The session is straight the point (no worries); I don’t have to wait (sometimes the lecturer comes late not on schedule)</td>
<td></td>
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**Table 2. What Students Don’t Like about E-Learning**

<table>
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<tr>
<th>Statement</th>
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<tr>
<td>I cannot interact social; I can miss other information that usually obtained from campus; It is very difficult to learn lessons if you don’t meet lecturers directly.</td>
<td></td>
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<tr>
<td>Internet connection is not good; The material given is more difficult to understand if I do not see directly; It uses more internet connections</td>
<td></td>
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<tr>
<td>The internet connections are sometimes unstable it makes more difficult to understand; The unscheduled session, so I have to stand by.</td>
<td></td>
</tr>
<tr>
<td>It is not similar with attending a lecture (like self-learning); I can’t meet friends; E-learning isn’t as interactive as face to face class</td>
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<tr>
<td>Sometimes the delivery is unclear; It is very difficult to do a group assignment or project if we do not meet</td>
<td></td>
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<tr>
<td>Servers that are sometimes slow; I feel I get more assignment than the face to face session; To be able to understand the session, I need a good internet connection</td>
<td></td>
</tr>
<tr>
<td>I feel it is less informative; I requires a good internet connection; It is difficult to do group assignment</td>
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<tr>
<td>The atmosphere is not motivating, I have to look at the computer / cell phone screen for long time; My eyes are tired; Session is shorter therefore the explanation is not as detail; after session I have to read the material again.</td>
<td></td>
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</tbody>
</table>
However, when asked "after experiencing e-learning, which one do you prefer? Face to face or e-learning?". Eighty percent of respondents still preferred to have face-to-face. Only 13% chose to have e-learning and 7% said that they want to have a mixed method (Figure 7).

![Figure 7. Face-to-face or E-Learning](image)

All respondents were only slightly satisfied with the e-learning experience. From scale 1-6, they only rated 4 on average. This is understandable because all of the respondents are also students who are originally a regular student from University. Because of the COVID-19 outbreak, they are forced to attend the e-learning class. Most of them do not have the intention of e-learning. The condition has forced them to shift to e-learning. However, still, it was 4. It meant they were satisfied enough.

This study showed that students liked e-learning flexibility, accessibility, a relaxed atmosphere, and the opportunity to have more spare time to do other activities. The respondents liked the experience of e-learning. They liked how flexible it was. They did not have to wear formal clothes. Then had more free time. They were also able to multitask. Unlike in the classroom, where the use of gadgets during class is limited, e-learning allowed them to still check their gadgets frequently. They also liked that they did not have to travel. It was less time consuming and less traveling cost. It also meant more free time and spare money. Being unmonitored was also relaxing for them.

All respondents in this study were from Generation Z. Generation Z is the generation born between 1995 and 2015 (Bassiouni & Hackley, 2014; Koulopoulos & Keldsen, 2014; Töröcsik, 2014; Tulgan, 2013). Most of them are still in the transition of high school to more dependent university students. Generation Z is known for its convenience and relaxation. They are also the ultimate multitasking generation. Forty percent of them use smartphones or tablets while watching TV (Pollak, 2020). With those characteristics, no wonder the experience of e-learning is interesting. They like being not in a rush and relax and at the same time, they do not have to focus on doing one thing at a time.

Although Generation Z spends most of their time in front of an electronic screen, they stay socialized. Generation Z likes constant and immediate feedback. Therefore, they felt unhappy to have a restriction on mobility. They did not like the lack of inter-activity of e-learning. They did not like how it limited their interaction with lecturers and friends. They also disliked the idea that they had to study by themselves. In fact that they preferred to have a face-to-face session confirms the statement from (Schawbel, 2014) that they prefer the traditional method of communication.

Generation Z is known to have a fairly high degree of confidence (Ozkan & Solmaz, 2015). However, (Tulgan, 2013) states Generation Z less optimistic compared to Generation Z and cautious. They also know that they are clueless about a lot of things (Tulgan, 2015). Therefore, they still need direction. They still need authority to support them in time they are not sure what to do.
This study also reveals that 20% of respondents prefer to have mixed and e-learning. Therefore, if the e-learning program can focus on things that they like and diminish what they do not like, the program may attract them.

Conclusion

COVID-19 pandemic outbreak is not only affecting human health, but it is also affecting other aspects of human life, including the education sector. In many countries, the recommendation of health authorities forced the education sector to find an alternative to face-to-face delivery methods. The distance learning method may be the best option for students in a forced situation. Even though e-learning is a hot topic, e-learning is still more of a supplement to education in normal conditions.

This study shows that flexibility, accessibility, perceived ease of use, inter-activeness, and connectivity are the most concerning thing in e-learning. However, internet connection, lack of inter-activeness and the feel of being isolated are the major drawback of e-learning which are still to be addressed. This study can give insight that to have a successful e-learning using its attractiveness and that combination of both e-learning and face-to-face can be a better option to addresses some of the concerns of e-learning.

The limitation of this study are the small number of respondents and the diversity of respondents and only be conducted by questionnaires. Further study with a large number and more diverse respondent needs to be explored. Study to dig deeper about students' perceptions on e-learning should also be explored.

References


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