



Student Perceptions about the Implementation of Web Applications during Distance Learning

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Abstract

This study aimed to obtain data on students' perceptions about the implementation of web applications during distance learning in the Covid 19 pandemic which was held at MAN 22 Jakarta. There were 66 students involved in this study as research respondents and consists of class X Science and X Language. The results of data processing in a percentage of 83.9% which led to student approval of the implementation of web applications during distance learning in MAN 22 Jakarta. The indicators used in this study were the material and media aspects of learning, the interaction in the learning process and the aspects of the learning atmosphere which became the assessment which were then processed using the Likert Scale method by spreading questionnaire through Google form in conducting research in order to obtain students' perceptions.

Keywords: distance learning, perception, web applications

Introduction

Starting from the beginning of March since the Covid-19 case was first officially confirmed by the government which was then followed by various policies such as social and physical distancing, Large-Scale Social Restrictions or in Indonesian is Pembatasan Sosial Berskala Besar (PSBB) to a new normal life in order to prevent the spreading of the Corona virus widely. The number of cases considered to have drastically increased which had significant impact on all sectors ranging from health, economy, education, social affairs, and tourism to community worship activities.

Quarantine is also implemented for all community to carry out outside activities from home. Starting from workers who do Work from Home to schools that implement an online learning system as stated in

Circular Number 2 of 2020 concerning the Prevention and Handling of Covid-19 within the Ministry of Education and Culture, and in Circular Number 3 of 2020 concerning Covid-19 Prevention in the Education Unit, which includes instructions on the learning process from home (Arifa, 2020).

Inadequate situations might affect the process of learning but it doesn't stop as long as there's will of the individual. Therefore, the quality learning process requires quality service administration (Sagala, Syaiful. 2013). Currently, the implementation of online learning is aimed at reducing the impact felt during a pandemic where students have to study at home. Face-to-face learning is replaced with the help of remote communication tools to maximize the learning process.



In other words, the practice of education in a network (online) or online system-based is an attempt by the government to continue to carry out educational activities in the midst of the Covid-19 pandemic, which has the same meaning as the above statement, namely education must run in any circumstances.

The learning system that is carried out without direct face-to-face learning is also known as distance learning by integrating technology with education. Learning usually uses internet-based media. Examples are animation videos, youtube, google classroom, WhatsApp and so on (Rahmawati, 2016).

UNESCO (Chaeruman, 2004) suggests that there are three objectives in integrating telecommunication and information technology for learning, namely building knowledge based society habits, developing skills using technology (ICT literacy), and increasing the effectiveness and efficiency of the learning process. Web-based learning is also known as E-learning which can be implemented in various ways, such as through independent unit study, asynchronous interactive sessions, where participants interact at different times; or synchronous interactive settings, where students meet in real time (Ryan, 2001).

E-learning itself has a definition according to Jaya Kumar C. Koran (2002) is teaching and learning that uses electronic circuits (LAN, WAN or internet) providing

learning content, interaction or guidance. E-learning is believed to be able to bring better directional education. In the digital era 4.0, there should be new learning methods with flexible and effective concepts. Unfortunately, it also has obstacles that will lead to inequality in access to education, considering that online leaning is the only thing that could help during this time.

As stated by Aji (2020) about the variance of problems that hinder the implementation of the effectiveness of learning with online methods, including as stated by the limited mastery of information technology by teachers and students: (1) Inadequate Facilities and Infrastructure, (2) Limited Internet access, and (3) Lack of readiness for budget provision.

Furthermore, Bączek et. all., (2021) consider E-learning was less effective than face-to-face learning in terms of increasing skills and social competences. Students assessed that they were less active and tend to passive during online classes compared to traditional classes. Therefore, a successful implementation of online learning into the curriculum requires a well thought-out strategy and a more active approach.

Theoretical Review

Michotte (2019) develops perception as a phase of the total process of action which allows us to adjust our activities to the world, we live in. Here, the students' perceptions can be described as the



developed opinion after having a certain experience that needs adjustment. The students' perceptions become a benchmark in the success of procuring long-distance learning during the pandemic Covid-19.

Based on previous study, Smart and Cappel (2006) who examine students' perceptions of integrating online components in two undergraduate business courses where students completed online learning modules before class discussion. The result shows that participants in an elective course rated the online modules significantly better than those in a required course.

According to the current study from Agung & Surtikanti (2020) suggest that accessibility is still the major factor influencing the success of online learning. Online learning for English Language Education Study Program at STKIP Pamane Talino, and potentially Indonesia in general, requires some more friendly platforms so that students' participation can be increased. This is especially for students who reside in rural areas with limited internet connections and other support systems. In this study, the researchers recorded students' perceptions in terms of students' participation, accessibility, material and assignment delivery, and the use of e-learning platforms.

On the other hand, Laksana (2020) reveal the positive side obtained from student statements is the ease in carrying out lectures, maximum interaction, and good feedback given by the lecturer. However, there are

negative sides, including limited network usage, expensive quotas, and network electricity that is often interrupted. This study concludes that student' various online learning perceptions during the Covid-19 pandemic, starting from the infrastructure, the quality of interaction, and students' benefits.

Fortune, Spielman, & Pangelinan (2011) propose there several problems faced in online learning, including: teaching materials, learning interactions and the learning environment. Those factors are employed as framework indicators which necessary to bring the students' perception of online learning to be more contextual with the needs of this research.

Method

Data collection was carried out by quantitative method by distributing questionnaires via google form to the subjects of class of X Science and X Language Program at MAN 22 Jakarta with a total of 66 students so that the respondents had not reached 100% of the respondents. Likert scale used to acquire data from a group of people with agree/disagree, satisfied/dissatisfied approach, and so on about attitudes, opinions, behavior, perceptions or characteristics of that person. According to Sugiyono (2011) the Likert scale method is suitable to be applied to determine student perceptions.

Result

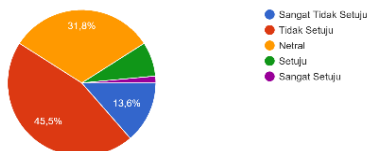
The indicators used are obtained from Fortune, Spielman, & Pangelinan (2011) which then employed as framework indicator aspect, those aspects are aspect of learning materials and media, aspects of interaction in the learning process and aspects of the learning atmosphere, from these three aspects, data is elaborated and classifying the questions based on the specified aspects.

The Material Aspects and Learning Media

The first aspect is learning materials and media. This is related to the delivery of teaching materials, the methods applied and the use of internet-based applications in learning.

Diagram 1

Melalui pembelajaran daring saya dapat memahami materi pembelajaran dengan baik
66 tanggapan

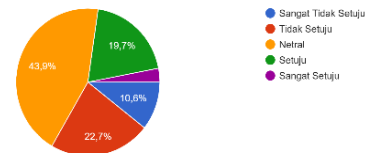


In diagram 1 the question posed is "Through online learning I can understand learning materials well" with the number of respondents who disagreed with 45% or 30 respondents and the second place stated neutral with 31% or 21 respondents. This shows that student satisfaction with the delivery of subject matter by educators tends to be less good. It is lined with Bączek, Michał MD et al (2021) perceptions' that E-learning should not only be based on the delivery of content, but students should be

able to work with the materials and receive feedback

Diagram 2

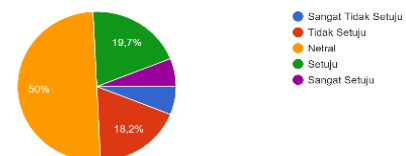
Menurut saya pembelajaran daring memiliki variasi metode pembelajaran yang menarik
66 tanggapan



Based on diagram 2 through the question "I think online learning has an interesting variety of learning methods" obtained neutral data of 43% or 29 respondents and 22% disagreed with 15 respondents. Oyedotun, T. D. (2020) on pedagogical benefits of online learning is that students and staff were able to explore different learning options using technology and other online tools for instruction and learning.

Diagram 3

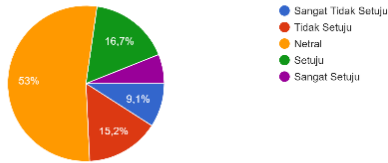
Saya selalu bersedia mengikuti diskusi daring melalui aplikasi berbasis video call
66 tanggapan



In diagram 3 with the question "I am always willing to take part in online discussions through a video call based application" shows the neutral level of students by 50% or 33 respondents where students still participate in online learning activities.

Diagram 4

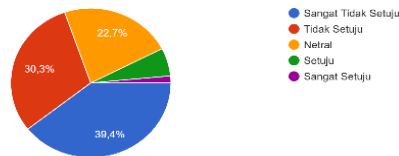
Saya puas dengan sistem penilaian pembelajaran daring untuk penilaian
66 tanggapan



In diagram 4, 53% of students who stated neutrality with the number of respondents 35 and 16% or 11 respondents agreed to the question *"I am satisfied with the online learning system for assessment"*. Therefore students tend to be pleased by the scores they get.

Diagram 5

Pembelajaran daring harus tetap diaplikasikan di masa depan
66 tanggapan



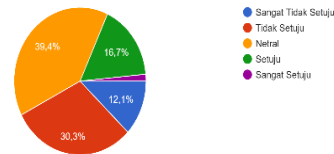
In the last diagram for the material and media aspects of learning, students are very contra with the use of applications in the learning method with 39% or 26 respondents who strongly disagree and disagree with 30% or 20 respondents on the question *"Online learning should be still applied in the future"*. This is very unfortunate because the use of technology in education is very necessary. Moreover, the use of online learning platform in the classroom is environment friendly and should be promoted since it is paperless and is very good for environment (Cakrawati, 2017).

The Interaction Aspects of the Learning Process

The second aspect relates to the process of interaction between teachers and students and students and students. This interaction will later support students in the learning process both in terms of understanding and creating a pleasant atmosphere.

Diagram 6

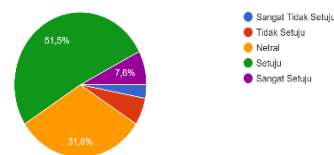
Secara umum, Saya menyukai mode pembelajaran daring
66 tanggapan



Based on the diagram above with the question *"In general, I like online learning mode"* get a neutral number of assessments from students with total satisfaction that is 39% or 26 respondents and 30% of the votes expressed disagreement with 20 respondents. This means that there is a need for efforts for educators to increase innovation in the online learning process.

Diagram 7

Saya dapat dapat menggunakan aplikasi/web pembelajaran dengan mudah
66 tanggapan



In the diagram 7 the question is *"I can use the application or web learning easily"*

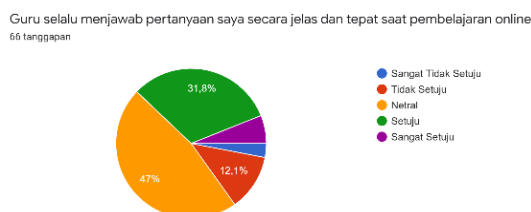
with 51% or 31 respondents who agreed to have the ability to operate online-based applications or webs on online learning. It leads to students' interest since it satisfies their technology addiction. The digital-native students can be interested in learning because they like the fact that they utilize technology in the classroom (Mustafa, 2015).

Diagram 8



The question posed in diagram 8 is *"I always collect assignments on time during online learning"* with the gain of 50% or 33 respondents who stated that they were neutral. This is comparable to the ability of students to use learning applications/webs.

Diagram 9



The question posed was *"The teacher always answers my questions clearly and precisely during online learning"* with the acquisition value of 47% or 31 respondents have a neutral opinion and 31% agree with 21 respondents. Therefore the teacher is

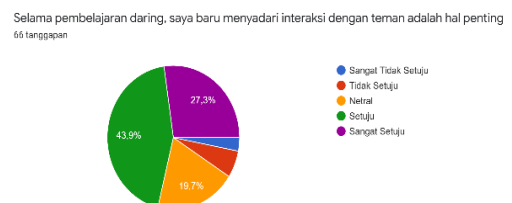
perceived to have created pleasant interactions in the classroom.

Diagram 10



The question in diagram 10 is *"I found it difficult to reach my friends during the pandemic"*. Students who agreed were 39% or 26 respondents and those who contra or disagreed were 28% or 19 students. This is due to the sophistication of qualified technology so that students can continue to communicate with peers.

Diagram 11



As many as 43% or 29 students agreed on the importance of having friends in the learning process through questions *"during online learning, I just realized interaction with my friends is important."* This is in accordance with the indicators of interaction aspects in the learning process.

Aspects of Learning Atmosphere.

A comfortable atmosphere of the learning process motivates students to learn

and receive material well. For that in learning a good atmosphere should be created.

Diagram 12



The learning process that is carried out online certainly takes a lot of time at home. However, it turns out that many students do not feel conducive to the atmosphere of learning activities at home. The online delivery mode forced many students to be working at home where they are under enormous distractions and other domestic issues (Sutton, 2020); and as such, most students found it challenging to maintain focus during online teaching. As many as 59% or 39 respondents expressed their disagreement with the question *"Studying at Home Has the Same Effectiveness as Studying at School."*

Diagram 13



In diagram 13, the question is *"Face-to-face learning in class is better than online learning"* with 66% or 44 students who

strongly agree. This is directly proportional to the previous question which indirectly agrees with this.

During online learning process, many students barely engage in class discussion as they do in the traditional face-to-face class and there is often little or no feedback when questions are asked. As a result, some online classes become dull and sometimes stressful. It is the students who do the learning (Lavy and Naama-Ghanayim, 2020, Orkibi and Tuaf, 2017) and if they resist or minimise their investment, attention or effort on their participation, they will only accomplish little in their learning.

Diagram 14



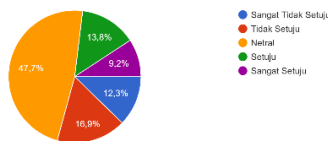
Internet access is important in the learning process. The proportion of students who felt they did not have a problem was 32% or 21 students. In contrast, 27% agreed to the question *"I have problems with internet access to use internet-based applications."*

Oyedotun (2020) proves that slower internet speed at home due to sudden and unprecedented internet traffic, and the lack of preparedness of internet providers for the sudden enormous demands on their services makes students are unable to submit assignments when due and to keep up with

the learning schedule. It means that it must be taken into account for school or educational institutions to facilitate students in accessing online learning.

Diagram 15

Belajar secara individual lebih baik daripada berkelompok
65 tanggapan



The final question in this aspect is "Learning individually is better than in groups" with the acquisition rate of 47% or 31 students stated that they were neutral. That means some students can adapt in the online learning process.

Based on the description above, the data was accumulated using the Likert scale method. Then obtained a percentage of 83.93% which leads to the tendency to agree on the implementation of web applications in the application of distance learning in MAN 22 Jakarta.

Table 1. Index Formulas

Index formula %	
$\frac{\text{Total Value}}{\text{Respondents} \times \text{Likert Highest Score}} \times 100\%$	
$\frac{2770}{66 \times 5} \times 100\% = 83.93\%$	

This proves that many students responded positively to the application of learning from during the Covid 19 pandemic. Even though it is a diagrammatic illustration,

students think that learning activities from school are better than learning online from home. But that doesn't mean online learning can't be applied properly.

Conclusion

Inserting learning innovations during online learning by involving indicator aspect such as aspects of learning materials and media, aspects of interaction in the learning process, and aspects of the learning atmosphere are things that must be taken into account for teachers to encourage and to enhance students to actively contribute to learning process which be held remotely via online. These indicators are expected to be helpful for teacher to guide within creating a learning method and lesson plan during the teaching and learning process.

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