THE QUALITY OF ASYNCHRONOUS ONLINE LEARNING ON EDMODO-BASED ENGINE ELECTRICITY SYSTEM COURSE DURING COVID-19 PANDEMIC

Erwin Komara Mindarta*, Moch. Harly, Sumarli, Paryono
Universitas Negeri Malang, Indonesia

*E-mail: erwin.komara.ft@um.ac.id

ABSTRACT
The decision of the Minister of Education and Culture concerning the prevention of co-19 which suddenly made "learning at home" during the pandemic forced various parties to follow the flow so that learning could take place, one of which was online learning. Measurement of the quality of asynchronous online learning is essential to do, to get a better picture and become a guideline for making improvements. Measurement includes aspects of expert assessment and student satisfaction using survey methods. The type of data collected is the data from the expert assessment and the data from the student satisfaction survey on Edmodo. Data sources included two experts and 58 students as respondents. Data collected by distributing questionnaires. The instrument used in the form of Edmodo asynchronous online learning manuals on engine electricity courses, expert assessment questionnaires and student satisfaction survey questionnaires on Edmodo. Data in the form of numbers were analyzed using descriptive statistical analysis. The conclusion is the quality of asynchronous online learning of Edmodo-based electrical engine subjects during the co-19 pandemic at the State University of Malang in terms of expert perspectives in the "Very High" category and viewed from the satisfaction of students in the "High" category.

KEYWORDS
COVID-19, Edmodo, engine electricity, online learning

INTRODUCTION

The covid-19 pandemic made the world leaders implement a strict policy to break the chain of distribution of co-19. Social distancing becomes a hard choice for every country in implementing policies to prevent the spread of co-19, because this policy is non-beneficial for all aspects of life, including education. Decree of the Minister of Education and Culture through the Minister of Education and Culture Circular No. 3 of 2020 dated 9 March 2020 concerning Prevention of Corona Virus Disease (COVID-19) in the Education Unit, which was suddenly by moving the learning process from campus to at home, making many parties confused. The transition to this way of learning forces various parties to follow the path that can be taken so that learning can take place and the choice is online learning.

Online learning is not without problems, many factors that hinder the effectiveness of online learning include: 1) low technology mastery, 2) limited facilities and infrastructure, 3) internet networks, and 4) costs (Nuryana, 2020). This online learning method is not new, because in some countries, especially in developed countries, online learning is already familiar. The online learning process in tertiary institutions, not only abroad but also in Indonesia is commonly used, including at Malang State University (UM).
UM already has an online-based learning management system (Sipejar) which can be accessed through the page http://sipejar.um.ac.id/. With this sipejar, UM has organized an online-based learning process or online lecture. However, not all academicians, especially lecturers, have participated in the socialization of the use of teachers because of other interests, making lecturers able to use other online media. This is supported by the Chancellor's Circular on Prevention of Corona Virus Spread (Covid-19) in the State University of Malang which regulates lecture activities in addition to utilizing SIPEJAR UM, may use other online media, such as WA, G-Classroom e-mail.

Edmodo was chosen because:
1. Edmodo application can take place everywhere, every time at home, in a car, day, night, etc. (Al-Said, 2015);
2. Edmodo is free, according to the opinion of Balasubramanian, et al. (2014) & Danver (2016), that Edmodo is a free and secure educational learning network used to provide a simple way for teachers to create and manage an online classroom community as well as enables students to connect and work with their classmates' teachers anywhere and anytime;
3. there are already those who use Edmodo as a social learning network in the field of automotive learning (Basori, 2013) with results that can be used as a reference for further research, namely: a) there is a significant increase in lectures/learning by utilizing the role of Edmodo, b) students feel a high level of satisfaction with this Edmodo service, c) the appearance of Edmodo is very user-friendly, making it easy to use, and d) the Edmodo feature is very supportive in managing teaching and learning activities.

Edmodo features are offered a lot to support the online learning process, i.e.
1. polling, to find out student responses on certain matters;
2. grade book, allows lecturers to manage the assessment of learning outcomes of all students, assign grades to students manually or automatically;
3. quiz, to provide online evaluations to students in the form of multiple-choice, short entries, or question details;
4. files and links, to send notes with attached .doc, .ppt, .xls, .pdf files and their links;
5. library, with this feature, lecturers can upload teaching materials such as materials, presentations, pictures, videos, reference sources, and others;
6. assignment, to give assignments to students online, equipped with deadline times; and
7. award badge, to give an award to students/groups (Usman, 2016).

Due to work from home, all lecturers are required to organize teaching and learning activities online, so to avoid collision with students' online lecture schedules, other lecturers supporting this course optimize the quiz and assignment features in Edmodo as asynchronous online learning, i.e. learning that is carried out is not time-bound (Ramadan et al., 2018). Based on this, to get a better picture and be a guideline for making improvements (Ardehyani & Singgih, 2017), then measuring the quality of asynchronous online learning is very important. Quality measurements include 1) the quality of online learning asynchronous Edmodo engine electricity courses, covering aspects of usability, ease of use, completeness, and readability in the asynchronous Edmodo online learning manual of engine electricity courses; and 2) user satisfaction, in this case, students towards Edmodo.
RESEARCH METHOD

This research as a quantitative study with survey method. The reason this method is used is to find a general description of the quality of online learning asynchronous Edmodo-based electricity courses in the co-19 pandemic, from the standpoint of experts and user-satisfaction. The type of data collected is 1) data from the expert assessment and 2) data from survey results of student satisfaction with Edmodo. Data sources included two experts and 58 students as respondents—data collected by distributing questionnaires. The instruments used were 1) Edmodo asynchronous online learning manual for engine electrical courses, 2) expert assessment questionnaire, and 3) student satisfaction survey questionnaire on Edmodo. Data in the form of numbers are analyzed using descriptive statistical analysis, while those other than numbers are based on interpretation.

To measure student satisfaction with Edmodo, Green & Pearson (2004) formulated the four best variables, including 1) ease of use/ease of navigation, 2) personalization (customization), 3) speed of access to applications (download delay), and 4) presentation of information (content). The picture of user satisfaction models, according to Green & Pearson, can be seen in figure 1(Nurani, 2014).

![Figure 1. Usability Green and Pearson Model](image)

The four satisfaction measurement variables above are then linked and constructed with indicators of website usability evaluation for academic purposes by Yuliani and Prasojo (2016) so that the questions in this study are explained in the following table.

| Variables      | Indicators                        | Questions                                      |
|----------------|-----------------------------------|------------------------------------------------|
| Ease of Use    | Presentation structure            | Is Edmodo easily accessible?                   |
|                | Ease of access                    | Do you often access Edmodo?                    |
|                | Clarity of information presentation| Is the menu in Edmodo easy to use?             |
| Variables          | Indicators                 | Questions                                                                 |
|--------------------|----------------------------|---------------------------------------------------------------------------|
| Customization      | Interesting material      | Is the Edmodo display easily recognizable?                                |
|                    | Personalization           | Is the coloring technique in Edmodo interesting and not monotone?          |
|                    |                            | Is the menu structure on Edmodo well structured?                          |
|                    |                            | Are the writings on Edmodo easy to read clearly?                          |
| Download Delay     | Speed in finding information | Is the information you need easily downloaded on Edmodo?                   |
|                    | Control of material       | Does it not take long to download information on Edmodo?                   |
|                    |                            | Does every page on Edmodo display quickly after you click the link?        |
|                    |                            | Do you easily access information on each Edmodo page?                      |
| Content            | Information specifications | Does the information presented on Edmodo suit your needs?                 |
|                    | Fulfillment                | Does the diversity of information present on Edmodo appeal to you?         |
|                    | Adequacy of material      | Is the text displayed on Edmodo easy to read clearly?                      |
|                    |                            | Can the images displayed on Edmodo be seen clearly?                        |
| Satisfaction       | Convenience                | Do you think this Edmodo is good to continue to be used in teaching and learning activities? |
|                    | The desire to continue to access the Edmodo web | Is Edmodo appropriate to be used as a tool in the process of teaching and learning activities in each institution? |
|                    |                            | Do you think collecting class assignments using Edmodo is more flexible and optimal? |
|                    |                            | Do you prefer to use Edmodo in doing classwork than in writing?            |
|                    |                            | Overall, are you satisfied with the features and services provided by Edmodo? |

Source: Yuliani and Prasojo (2016)

In order to measure the quality of online asynchronous learning on Edmodo based engine electricity system course from an expert's perspective, an expert assessment aspect is used, which refers to Mindarta's research (2015), namely:

1. Introduction to Edmodo
2. Initiates the use of Edmodo for educators
3. Class making and setting in Edmodo
4. Content management in Edmodo
5. Use of Edmodo virtual classes as students
6. Management of teaching and learning activities
7. Conclusions/conclusions
The questionnaire measurement scale is made in the form of a five-point score with a Likert scale model to measure respondents' approval levels and assessment aspects. Here are five answer scales that researchers used in this study, 1 = strongly disagree, 2 = disagree, 3 = doubtful, 4 = agree, and 5 = strongly agree. Whereas the determination of the criteria for each construct refers to the following table.

Table 2. Criteria for Determination of Construction Categories

| Score | Percentages | Categories       |
|-------|-------------|------------------|
| 0 – 0,99 | 0% - 20% | Very low         |
| 1 – 1,99 | 21% - 40% | Low              |
| 2 – 2,99 | 41% - 60% | Fair             |
| 3 – 3,99 | 61% - 80% | High             |
| 4 – 5    | 81% - 100% | Very high        |

Source: Mindarta (2015)

RESULTS

Data on the results of expert assessments are presented in the following table.

Table 3. Expert Assessments of Asynchronous Edmodo Online Learning Aspects

| No. | Aspect                                | Score (%) | A1 | A2 | A3 | A4 |
|-----|---------------------------------------|-----------|----|----|----|----|
|     |                                       | Score (%) |    |    |    |    |
| A   | Introduction to Edmodo                | 75        | 90 | 70 | 65 |
| B   | Starting the Use of Edmodo for Educators | 95    | 80 | 85 | 85 |
| C   | Class Creation and Arrangement in Edmodo | 96    | 88 | 88 | 84 |
| D   | Content Management in Edmodo          | 92.5      | 82.5| 92.5| 85 |
| E   | Use of Maya Edmodo Classes as Students | 84     | 88 | 80 | 84 |
| F   | Management of Teaching and Learning Activities | 95    | 90 | 85 | 80 |
| G   | Closing / Conclusion                  | 80        | 100| 80 | 80 |
|     | TOTAL SCORE                           | 827.98    | 823.82| 778.73| 756.06|
|     | AVERAGE                               | 88.2      | 88.4| 82.9| 80.4|
|     | WEIGHT                                | 25%       | 25%| 25%| 25%|
|     | PERCENTAGE (%)                        | 22.05     | 22.1| 20.725| 20.10|
|     | TOTAL ASSESSMENT                      | 84.98     |     |    |    |
|     | CATEGORY                              | Very High |     |    |    |

Information:
A1 : Usability          A4 : Readability
A2 : Ease of use        S : Sigma/Total value
A3 : Completeness       X : Average value
Based on Table 3, it is known that the total expert assessment of aspects of Edmodo asynchronous online learning = 84.98%. According to table 2 then the total assessment given by experts on the aspects of Edmodo asynchronous online learning is in the category of "Very High", so it can be concluded that the quality of online learning asynchronous online learning of Edmodo based electricity engineering is categorized as "Very High".

Data on the results of the student satisfaction survey on Edmodo are entirely exposed in the following table.

| No. | Aspect                                                                 | Average Score | S          | X          | Categories |
|-----|------------------------------------------------------------------------|---------------|------------|------------|------------|
|     |                                                                        | B1-G5 B3-I5 B4-J5 |            |            |            |
| 1   | Is Edmodo easily accessible?                                           | 82.80 66.00 76.00 | 224.80     | 74.93      | High       |
| 2   | Do you often access Edmodo?                                            | 51.40 57.00 41.00 | 149.40     | 49.80      | Fair       |
| 3   | Is the menu in Edmodo easy to use?                                     | 77.20 69.00 75.00 | 221.20     | 73.73      | High       |
| 4   | Can you easily find the information you need on Edmodo?                | 63.80 69.00 65.00 | 197.80     | 65.93      | High       |
| 5   | Is the Edmodo display easily recognizable?                             | 68.60 55.00 56.00 | 179.60     | 59.87      | Fair       |
| 6   | Is the coloring technique in Edmodo interesting and not boring?        | 81.00 69.00 73.00 | 223.00     | 74.33      | High       |
| 7   | Is the menu structure on Edmodo well structured?                       | 82.00 73.00 77.00 | 232.00     | 77.33      | High       |
| 8   | Are the writings on Edmodo easy to read clearly?                       | 79.00 68.00 77.00 | 224.00     | 74.67      | High       |
| 9   | Is the information you need easily downloaded on Edmodo?               | 79.00 73.00 69.00 | 221.00     | 73.67      | High       |
| 10  | Does it not take long to download information on Edmodo?               | 82.80 78.00 84.00 | 244.80     | 81.60      | Very high  |
| 11  | Does every page on Edmodo display quickly after you click the link?    | 71.40 65.00 73.00 | 209.40     | 69.80      | High       |
| No. | Aspect                                                                 | Average Score | Categories |
|-----|------------------------------------------------------------------------|---------------|------------|
| 12  | Do you easily access information on each Edmodo page?                 | 74.20 62.00 72.00 208.20 69.40 | High       |
| 13  | Does the information presented on Edmodo suit your needs?             | 76.20 74.00 78.00 228.20 76.07 | High       |
| 14  | Does the diversity of information present on Edmodo appeal to you?    | 79.00 78.00 71.00 228.00 76.00 | High       |
| 15  | Is the text displayed on Edmodo easy to read clearly?                 | 71.40 50.00 74.00 195.40 65.13 | High       |
| 16  | Can the images displayed on Edmodo be seen clearly?                   | 48.60 45.00 51.00 144.60 48.20 | Fair       |
| 17  | Do you think this Edmodo is good to continue to be used in teaching and learning activities? | 72.40 63.00 72.00 207.40 69.13 | High       |
| 18  | Is Edmodo appropriate to be used as a tool in the process of teaching and learning activities in each institution? | 67.60 65.00 57.00 189.60 63.20 | High       |
| 19  | Do you think collecting class assignments using Edmodo is more flexible and optimal? | 43.80 60.00 42.00 145.80 48.60 | Fair       |
| 20  | Do you prefer to use Edmodo in doing classwork than in writing?       | 59.00 62.00 61.00 182.00 60.67 | High       |
| 21  | Overall, are you satisfied with the features and services provided by Edmodo? | 78.00 72.00 71.00 221.00 73.67 | High       |

**TOTAL SCORE** 1489.2 1373.0 1415.0 4277.2 1425.7

**AVERAGE** 70.91 65.38 67.38 203.68 67.89

**CATEGORY** high high high high

Information:
S  : Sigma/total value
X  : Average value
Based on Table 4 it is known that the average score of the level of student satisfaction with Edmodo for class B1-G5 = 70.91%, class B3-I5 = 65.38%, class B4-J5 = 67.38%, and average score the level of student satisfaction with Edmodo for all three classes = 67.89%. as illustrated in Table 2, the average score of student satisfaction levels on Edmodo is categorized as "High", so it can be concluded that the quality of online learning asynchronous electricity courses on Edmodo based engine electricity is seen from the satisfaction of students in the "High" category.

CONCLUSION

Based on the results of the study, it can be concluded as follows:
1. The quality of asynchronous online learning of Edmodo-based electricity engine subjects during the co-19 pandemic at the State University of Malang in terms of expert perspectives is categorized as "Very High".
2. The quality of asynchronous online learning of Edmodo-based electricity engine subjects during the COVID-19 pandemic at the State University of Malang in terms of user-satisfaction / satisfaction of students towards Edmodo included in the category of "High".

RECOMMENDATIONS

Recommendations that can be given as a follow up from the results of the study are as follows:
1. Future studies can involve a more significant number of respondents in other automotive courses.
2. Future studies should use more comprehensive research methods.
3. Future studies can address the factors that hinder the effectiveness of other online learning practices.

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