

# Mapping the Favorite Online Learning Application and Method During the Covid-19 Pandemic Period

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## ABSTRACT

Covid-19 Pandemic is a central issue today, the impact of the influence of Pandemic requires learning organizations through online learning such as Work From Home (WFH) and Study From Home (SFH) which will reduce direct contact with students. This study aims to determine the application of the online learning model is a favorite undergraduate student so that the future can provide feedback to lecturers in determining the application and the proper method of online learning from the problems that hinder student learning during the online process. The method used a quantitative description approach by applying remote sensing which is integrated with geography information system analysis using cluster methods. The results of this study note that the application's favorite online learning model is the WhatsApp application. The favorite learning method during online learning is the discussion method. The highest problem experienced by students during online learning is signals or connections. Student's preference to choose an application in online learning is don't require loading that is too long.

**Keywords:** Geography Information System, Learning Method, Cluster Method, Covid-19

## 1. INTRODUCTION

Based on Worldometer data for 2020, Indonesia ranks second in the Covid-19 case in ASEAN after Singapore. As is happening now, the outbreak of the Covid-19 virus that originally originated in China began to spread throughout the world. Corona or Covid-19 virus is a new type of SARS-CoV 2 which was found in Wuhan, China on March 2nd, 2020 [1]. At present, the Covid-19 pandemic is almost happening in all parts of the world. Covid-19 provided the most commonly reported symptoms including fever, dry cough, and shortness of breath, and most patients (80%) had mild disease, about 14% had a severe illness and 5% were critically ill [2]. In Indonesia, May 26, 2020, confirmed incidence rate of Covid-19 was 23.165 cases, with a distribution of 15.870 people treated, 5.877 cured, and 1.418 people died; whereas for cases in East Nusa Tenggara Province there were 85 confirmed positive with the distribution of 7 recovered, 1 died, and 77 were treated [3].

Case rates are increasing every day accompanied by the impact of Covid-19, which can cause death rates of 1-5% in 100 cases, making the government and even the Rector of the University of Nusa Cendana issue a circular. The Rector of Nusa Cendana University issued a circular letter number 1801 / UN.15.1 / TU / 2020 dated

March 27th, 2020 based on Presidential Decree No. 7, 2020 concerning the task force for Corona Virus Disease, letter of the Ministry of Education and Culture Number 35492 / A.A5 / HK / 2020 concerning the prevention of Covid-19 within the Ministry of Education and Culture, and circular from the Governor of the Province of East Nusa Tenggara Number 443.1 / 06 / BO2.1 concerning the regulation and adjustment of the work system of the state civil apparatus and employees of state / regional owned enterprises / private sector in the context of preventing Covid-19 in East Nusa Tenggara Province. This certainly affects the campus life, especially in the implementation of teaching and learning, so the Rector of the Nusa Cendana University issued a circular containing the implementation of Work From Home (WFH) and Study From Home (SFH) activities, work from home activities are included in the implementation of learning activities.

Online Learning Model which came to be known as online learning with different interaction methods with face-to-face learning, this learning model is also called computer-based learning or technology [4]. The online learning model is an appropriate learning model during the Covid-19 pandemic because the lecturers and students did not meet each other. Teacher conduct online learning models in various ways, including through

Whatsapp, e-learning, Google Classroom, and interactive videos such as Zoom, Webec, and Skype. Various applications of online learning based on application and method used by these lecturers have an impact on students, especially the Undergraduate Students. Each student must have the most preferred online learning model used by these lecturers when teaching during the Covid-19 pandemic. To find out the favorite online learning based on application and method for undergraduate students, so that in the future it can provide input to lecturers in determining the great online learning.

## 2. METHOD

### 2.1. Location and Time

The location of this research in East Nusa Tenggara Province. Research time is from April 6th, 2020 - May 30th, 2020

### 2.2. Population and Sample

The population used is the number of semesters 2, 4, and 6 with a total of 301 students. To take a sample using the Slovin formula [5]. Then the number of samples is 75 students.

**Table 1.** Distribution of Samples for Each Division

| Division | Population | Sample |
|----------|------------|--------|
| 2017     | 114        | 25     |
| 2018     | 49         | 25     |
| 2019     | 138        | 25     |

Based on table I, it can be seen that the each division taken 25 sample.

### 2.3. Data Collected

This study uses a quantitative approach with a descriptive research design. Data collection techniques using questionnaires in the form of a link or URL link to undergraduate students of 2017, 2018, and 2019 Geography Education of Education Faculty, Nusa Cendana University used an application from Kobotoolbox collecting the data in this research used a questionnaire by using the application Kobotoolbox.

### 2.3. Data Collected

In making the analysis using assistance from the Kobotoolbox application that can record the location of students when filling out a questionnaire. Arc GIS 10.3

software uses spatial analysis of assign data themes and is then processed using Arc GIS online using the cluster method.

## 3. RESULT AND DISCUSSION

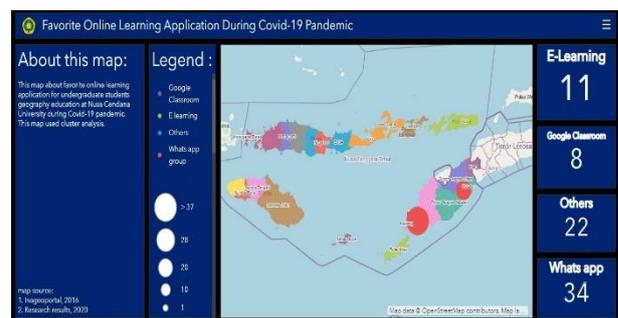
### 3.1. Favorite Online Learning Application During Covid-19 Pandemic

The application of online learning models favorite undergraduate students Geography Education of Education Faculty, Nusa Cendana University uses 4 types, the results are as in the table below:

**Table 2.** Favorite Online Learning Application during Covid-19 Pandemic and Discussion

| Applicatio<br>n  | Division |      |      | Total | %     |
|------------------|----------|------|------|-------|-------|
|                  | 2017     | 2018 | 2019 |       |       |
| E-learning       | 5        | 3    | 4    | 12    | 16    |
| Google Classroom | 2        | 2    | 4    | 8     | 10.67 |
| Others           | 8        | 7    | 7    | 22    | 29.33 |
| WhatsApp         | 10       | 13   | 10   | 33    | 44    |

Based on table II it can be seen the favorite application of online learning is WhatsApp with a percentage of 44%, whereas other types of online learning model with the lowest percentage are using google classroom of 10.67%. From the results of the questionnaire answers filled out by students, the location of students was recorded when filling out. By using Arc GIS software online map made as follows:



**Figure 1** Map of favorite online learning application during covid-19 pandemic

From Figure 1 is based on the division of the cluster known types of online learning application most favored by students is through the media WhatsApp.

### 3.2. Favorite Online Learning Method during Covid-19 Pandemic

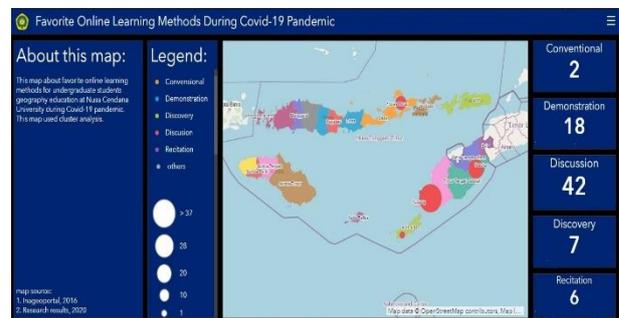
The learning method is different from the model of learning, the learning method is a means used to achieve the goals set. Online learning method used in this study using a variety of methods including demonstrations of discussion, discovery, conventional and recitation [6]. Demonstration method refers to the type of teaching method in which the teacher is the principal actor while the learners watch with the intention to act later. Here the teacher does whatever the learners are expected to do at the end of the lesson by showing them how to do it and explaining the step-by-step process to them [7]. Method of discussion is one method of learning, could also include other signs of limitation such as that it may get off track or that only few students may dominate it during the whole session [8]. The method of discovery is a way of teaching that regulates teaching in such a way that students acquire knowledge that they do not yet know through notification, partially or entirely found alone [9]. The conventional method as a process of delivering verbally a body of knowledge according to pre-planned scheme usually used the lecture method is the easiest, cheapest, and can be used to cover the syllabus and teach large groups of students [10]. The recitation method (assignment) is concluded to provide stimulation to learners to be more active learning by holding tasks that make learners can expand and deepen the teaching materials that have been given before by teacher [11]. Of the methods used for online learning favorite undergraduate students Geography Education of Education Faculty, Nusa Cendana University result as in the table below:

**Table 3.** Favorite Online Learning Method during Covid-19 Pandemic

| Methods       | Division |      |      | Total | %     |
|---------------|----------|------|------|-------|-------|
|               | 2017     | 2018 | 2019 |       |       |
| Conventional  | 0        | 2    | 0    | 2     | 2.67  |
| Demonstration | 2        | 3    | 2    | 7     | 9.33  |
| Discussion    | 10       | 16   | 16   | 42    | 56    |
| Discovery     | 9        | 3    | 7    | 19    | 25.33 |
| Recitation    | 4        | 1    | 0    | 5     | 6.67  |

Based on Table 3 it can be seen the methods in online learning during a pandemic Covid-19 is preferred by students is the method of discussion with a percentage of 56%. While the method has the lowest percentage of the value of 2.67% is the conventional method. Furthermore,

from the results of the answers to a questionnaire completed by the students, recorded the location of current students does the charging. By using Arc GIS software online map made as follows:



**Figure 2** Map of favorite online learning methods during covid-19 pandemic

Figure 2 is based on the division of the cluster known online learning method most favored by undergraduate students is the method of discussion.

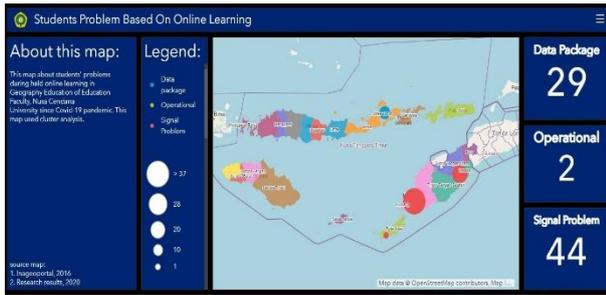
### 3.3. Students Problem Based On Online Learning during Covid-19 Pandemic

During the implementation of learning activities, there are various problems. The problems in the implementation of online learning model that is experienced by students during the execution result of the pandemic Covid-19 in the table below:

**Table 4.** Students Problem Based on Online Learning during Covid-19 Pandemic

| Problem        | Division |      |      | Total | %     |
|----------------|----------|------|------|-------|-------|
|                | 2017     | 2018 | 2019 |       |       |
| Data Package   | 8        | 11   | 10   | 29    | 38.67 |
| Operational    | 1        | 0    | 1    | 2     | 2.67  |
| Signal Problem | 16       | 14   | 14   | 44    | 58.67 |

Based on Table 4 are known where most problems experienced by students is a signal or connection problems with a value of 58.67%. From the results of Table 4 is mapped to the cluster system to know the most dominant problems.



**Figure 3** The students problem based on online learning during covid-19 pandemic

From Figure 3, it can be seen that the problem in the online learning model is signal or connection problems

### 3.4. Students Problem Based On Online Learning during Covid-19 Pandemic

Factors that affect student preference in choosing an application in online learning as follows:

**Table 5.** Students Preference for Choosing an Application in Online Learning

| Factor                               | Division |      |      | Total | %     |
|--------------------------------------|----------|------|------|-------|-------|
|                                      | 2017     | 2018 | 2019 |       |       |
| Practical                            | 7        | 6    | 9    | 22    | 29.33 |
| Not require loading that is too long | 14       | 11   | 9    | 34    | 45.33 |
| Save on data packages                | 4        | 8    | 7    | 19    | 25.34 |

Based on Table 5 are known where most factors that affect student preference in chose an application in online learning by students is require loading with a value of 45.33%. Students need applications with loading that are not too long. It is reasonable because it can hinder and spend their time understanding learning. Many factors because the loading too long, for example of the performance of servers, databases, traffic, etc.

## 4. CONCLUSION

The research results revealed that the online learning model application of the most favored by students is WhatsApp. It becomes certainly provides inputs to the existence of e-learning is not a favorite of university students. The discussion method is the method most preferred by students. Problems related to the signal or the connection is the most dominant obstacles in exercising their online learning model during a pandemic Covid-19. Student’s preference to choose the best

application in online learning is based on the loading factor. That's mean don't require loading that is too long.

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