



## TELECOMMUNICATIONS ENGINEERING STUDENTS' LEARNING STYLES USING WHATSAPP MEDIA DURING THE COVID-19 SCHOOL YEAR 2020-2021

Ahmad Akhyar Ariz<sup>1</sup>, Umniyatul Azizah<sup>2</sup>, Rizki Firdaus<sup>3</sup>

<sup>1</sup>Telkom University, 23 Sunan Gunung Djati State Islamic University

e-mail: \*<sup>1</sup>arizzz@student.telkomuniversity.ac.id;

<sup>2</sup>umniyatulazizah@gmail.com; <sup>3</sup>firdausrizki33@gmail.com;

### ***Abstract***

Corona virus appeared in early March 2020 in Indonesia. For this reason, learning uses WhatsApp media at Telkom University. How is the relationship between learning styles adjusted during the covid 19 period and the use of WhatsApp? This research uses a quantitative approach with a population of 110 people and 10% is taken as a sample so that the sample is 11 people. There is a significant relationship between learning styles and the use of whatsapp media. This is evidenced in the SPSS results using the Kolmogorov-Smirnov test, the results of normal data and a relationship of 0.08 means this is greater than 0.05 and it proves that there is a relationship between learning styles and learning to use WhatsApp media during the covid 19 periods.

***Keywords:*** *learning styles; covid-19; whatsapp*

### ***Abstrak***

Virus corona muncul pada awal maret 2020 di indonesia. Untuk itu pembelajatan menggunakan media whatsapp di universitas Telkom university. Bagaimana hubungan antara gaya belajar yang menyesuaikan pada masa covid 19 dengan penggunaan whatsapp. Penelitian ini menggunakan kuantitatif dengan populasi sebanyak 110 orang dan 10% diambil sample sehingga sample nya berjumlah 11 orang. Terdapat hubungan yang signifikan antara gaya belajar dengan penggunaan media whatsapp. Hal ini dibuktikan pada hasil spss menggunakan uji Kolmogorov-smirnov hasil data normal dan hubungan 0,08 berarti ini lebih besar dari 0,05 dan itu membuktikan bahwa terdapat hubungan gaya belajar dengan pembelajaran menggunakan media whatsapp pada masa covid 19

***Kata Kunci:*** *gaya belajar; covid 19; whatsapp.*

## INTRODUCTION

At the beginning of 2020 the emergence of the Covid-19 virus, which became a threat to the world community, was no exception, the emergence of this virus also became a threat to people in Indonesia. In order to deal with the spread of Covid-19 which has become a pandemic, the Indonesian government has begun to implement Large-Scale Social Restrictions or abbreviated as PSBB. During the PSBB period, which required people to maintain health by keeping a distance, always wear a mask when leaving the house and routinely maintain hand hygiene by washing both hands with soap or hand sanitizer. Like wise with other community activities that are mass gathering or crowds in one zone or area, the government, especially the Ministry of Education and Culture, Research and Technology, suggested closing schools and requiring students to study from home in order to reduce the impact of the risk of spreading and transmitting the Covid-19 virus. In this social restriction effort, the Indonesian government has limited activities outside the home including educational activities carried out online through online or online learning, starting from elementary, middle school to tertiary level institutions.

The impact of the rapid spread of the Covid-19 virus has spread to various countries that have required various sectors to be paralyzed and unstable, among which the most pronounced impact is health and education as well as economic stability. From the restrictions on the education sector, especially in Indonesia, when the first outbreak was detected in Indonesia, with several people infected with the Covid-19 virus and having to be isolated, it was there that several policies from the central government and the education agency emerged to maintain the knowledge transfer ecosystem.

Previously, no one could predict the emergence of the Covid-19 virus, which is currently endemic. This has caused stuttering from various parties, both from the government and the wider community in dealing with the Covid-19 pandemic. The school's stuttering was no exception when dealing with a sudden outbreak that made many parties confused when schools received instructions to organize online or online learning processes to prevent and stop the spread of the Covid-19 virus so that it would not spread further. Various stuttering emerged from the teacher, school, parents and students themselves. How is it not that schools, which are

usually held in a face-to-face process, are then diverted to online and remote methods.

Learning media and methods are learning elements that can influence learning motivation so that they have an impact on the quality and results of education. The Covid-19 pandemic situation in 2020 led to the enactment of a policy of limiting face-to-face teaching and learning activities and supporting online (online) learning. As a result of the outbreak of the Covid 19 pandemic and the implementation of various health protocols.

The government provides policies regarding learning and teaching activities. The Indonesian government in particular issued a regulation based on the Ministry of Education and Culture on 17/03/2020 for educators and students to carry out home-only learning (PJJ) or distance learning.(Dewi Aisyah, Dwi Erna Novianti, 2020)so indeed all learning for both educators and students is carried out online or remotely in their respective homes (online).

Patria and Yulianto (2011) stated that there are several learning methods that are used when learning from home, including online learning. Online learning is a learning method that uses technology and internet networks starting from using Whatsapp, Google Classroom, Zoom or other applications. Online learning is carried out by utilizing internet technology with a distance learning system, so that learning and teaching activities (KBM) are not carried out face to face. Online learning can be done using several media, both print media (modules) and non-print media (audio or video), computers or the internet, radio and television broadcasts.

During the current pandemic, online learning was not only at the higher and secondary levels, but also at the elementary level due to restrictions on schools with a face-to-face system. Based on a survey of researchers, online learning still has many obstacles that occur during several periods of online learning, for example in terms of teachers' limitations in mastering online learning, because not all teachers are familiar with operating online learning applications, the availability of electronic tools and devices used can support online learning to take place, or obstacles in terms of signal and adequate quota availability when online learning takes place, as well as other problems that arise from this online learning.(Kristina

et al., 2020)

The method with separate distances is a learning style using media intermediaries for educators and students where the communication process is very necessary. This is a positive thing to help the government in implementing social distancing. With this the learner experiences sudden changes, of course all parties must be able to drastically change the learning style that has been done before. Even though many parties, both educators and parents, do not have mature readiness to do this online learning.(Naconha, 2021)

So the Ministry of Research and Technology seeks several changes in the field of education as a means and infrastructure for conveying communication between educators and students. Several media assist in the teaching and learning process, as well as convey distance or online learning, namely by using National TV broadcasts, namely TVRI, the WhatsApp application, Zoommeeting, Quiziz, Telegram, Google Meeting, Google Classroom, Edmonodo, and Youtube.

Some of these definitions can be concluded that online learning is a learning activity that is carried out by utilizing digital devices and the internet to make learning more interesting, creative and independent. Online learning includes delivering material and information, giving assignments and active interaction between teachers and students during the online learning process. In online learning there are many choices of online applications that can support online learning itself and each online learning application has a different system and way of working including the Google Classroom, Google Meeting, Zoom, Whatsapp, Youtube, Edmodo applications and others.

According to Gikas and Grant (2013) in Sadikin and Hamidah (2020), mobile devices such as Android smartphones, laptops, computers, tablets and iPhones are a means of supporting online learning to access information anytime and anywhere. However, the main obstacles that are often encountered are technical problems, problems using applications that are used to quota and signal problems, moreover problems from students who are connected to their character and learning style and family economy, as well as teacher competence problems.(Naconha, 2021)

On the other hand, unfortunately this is not accompanied by progress in

human resources so that various problems arise, including from the Basic level to the Student Stage which of course has characteristics in learning styles, learning motivation or learning motivation, environmental conditions and the condition of the facilities which sometimes This is because it is different for each student.

The implementation of the lockdown in Indonesia in particular is very worrying. However, learning must still go through learning experiences, emphasizing emotions and situations that are practical and flexible for educators and students. They can still carry out learning using online methods or via the internet network with learning styles that are adjusted in advance as how to process instant and flexible learning styles in using media. messenger from whatsapp application.(Azizah et al., 2021)

Here the teacher is required to be creative in determining learning strategies and methods as well as selecting the learning media and applications used, as well as linking learning material to existing situations in the hope that students can easily understand the material presented and not get bored. The teacher's ability to innovate will be able to change students' learning habits by paying attention to student learning styles. As is known, the different learning styles of students also affect the final results of this online learning.

Learning style is a habit that is liked by students in receiving learning. Information received by students well is how the learning style itself is carried out. Furthermore, learning style is the consistency shown by individuals so that they can manage, organize, remember, absorb, think, receive information and so on so that the ability in the learning process gets maximum results, in accordance with the personality attitudes and abilities of each. A parameter that can be known in learning styles(Matussolikhah & Rosy, 2021).

There are 3 student learning styles as described by Hamzah (2006) in Wassahua, S (2016), namely 1) Visual learning style (vision), where the ability to demonstrate is higher than explaining, concrete evidence must be shown first so they understand, difficulty in direct dialogue is a common obstacle, 2) Auditory (hearing) learning style, in which speaking skills predominate, enjoy discussion and talk at length. Students with this learning style are generally quite difficult to

directly absorb information in the form of writing or reading, and 3) Kinesthetic (movement) learning style, where students show an interest in learning through direct practice. Someone who has this learning style can immediately absorb information without having to read the explanation just by holding the object. can't stand sitting pretty for long that's their obstacle. Listening to lectures or discussions is something that is considered heavy for students who like to read. Likewise, students who have high kinesthetic and like to move are less able to study well if they have to listen to lectures, as well as for children who like to discuss.(Naconha, 2021)

Factors that influence learning outcomes, namely from learning styles, capturing information with the right learning style is needed by students and students. The treatment of distance learning, with separate educators and students, is expected to have educators have a good strategy in learning.(Prasetyo & MS, 2021)

The characteristics of the visual learning style emphasize neatness and order in terms of appearance and remembering what is seen rather than learning what is heard. The visual learning style pays attention to the appearance of a very orderly reader who is a diligent speaker in meetings, paying close attention to yes if it is right and no if it is wrong. This makes people who are of the visual learning type more inclined to the art of painting. Visual learning styles focus on visual acuity.(Dewi Aisyah, Dwi Erna Novianti, 2020).

For example, in everyday life, people who are intelligent in visual learning style abilities are good at drawing, reading notes, reading diagrams, graphs, tables, maps, and the like. The auditory learning style has the characteristics of being easily distracted, easy to hear noise, likes to read books, listen to teachers, have discussions, speak fluently, be able to repeat and imitate music, tones, bars, and colors of good music. get along. This auditory capital imitates many voices, rhythms, dialogue tones, music, and understanding when listening to the teacher telling stories or singing while studying.

While the characteristics of the kinesthetic learning style are slow, attentive, move a lot, practice, and like to manipulate.(Matussolikhah & Rosy, 2021)for that

all students cannot be equated, if the visual learning style tends to read fast, memorize while auditory read, and like to talk. And kinesthetic is more practical. This learning style focuses on physical activity and movement. Kinesthetic is the capital to access all types of movement of body activity and emotion.(Manafe, 2019)

The use of the WhatsApp application certainly has a step by step process for learning. There are three stages consisting of the opening step, the second whilst step and finally the closing step. The teacher opens the lesson by saying hello and saying hello, you can use a voice note or chat to signal that learning is starting soon. The learning media that is used is then shared according to teaching material, for example video images or continues for the next application and finally the closing can be done by giving assignments, for example in the WhatsApp group.(Astuti, 2021)

## **RESEARCH METHODS**

This study uses a quantitative approach with a survey research design, where the results of the data use numbers and then describe them based on these numbers. The object of research is telecommunications engineering students for the 2020-2021 academic year, most of whom occupy semester V (Fifth). The research subjects were a total population of 110, of which 10% was taken as a sample, which means that approximately 11 people were sampled in the field.

The data collection instrument uses the method from Google's digital platform media, namely the Google form which is then presented to the research subject by providing questions to be answered by respondents:

- 1) There are questions whose questionnaire instruments will be filled in by respondents.
- 2) The questions will reflect each student's learning style, namely by grouping learning styles, there are audiotorial and there are visual ones. Each question has 5 options, namely:

“never” is given a score of 1, “rarely” is given a score of 2, “sometimes” is

given a score of 3, “often” is given a score of 4, “always” is given a score of 5.

- 3) And for each question grouped on learning styles, the score was calculated using SPSS and got the results in this study.
- 4) Then it can be concluded that student learning styles when using the WhatsApp application.

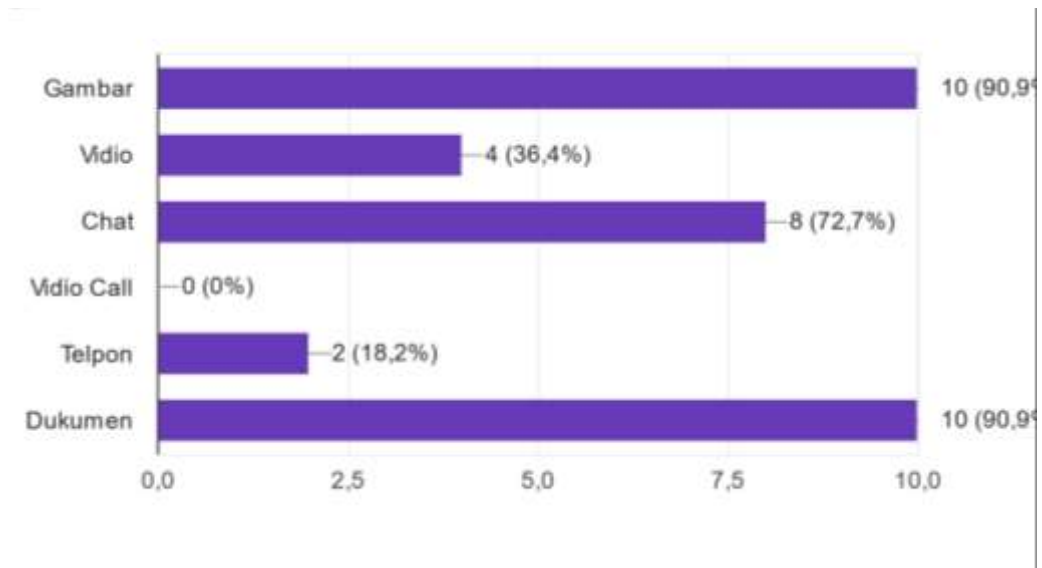
The questionnaire answers are closed, meaning that only answers that are already available on the Google form can be used by the subject. This questionnaire is direct because it is answered directly by telecommunications engineering students directly, then the data is processed by quantitative calculations using SPSS. The technique used in this research is a questionnaire technique. (Manafe, 2019)

The difference with another journal entitled Identifying the Learning Styles of Undana Electrical Engineering Education Students is that they do not use the WhatsApp application in their research. There is also an education journal entitled Improving the quality of online learning during the Covid-19 pandemic using social media WhatsApp groups and YouTube, which has differences in this journal, namely learning styles that are not studied in the journal.

## **RESULTS AND DISCUSSION**

The 2020-2021 school year after that an analysis was carried out on each research subject of Telkom University Telecommunications Engineering students found in the drawing of conclusions by a subject mostly on learning styles, in research conducted to determine groups The tendency for learning styles is;





Telecommunications Engineering students use learning styles with WhatsApp media:

1. Image 90.9%
2. Videos 36.4%
3. Chat 72.7%
4. Video calls 0%
5. Phone 18.2%
6. Documents 90.9%

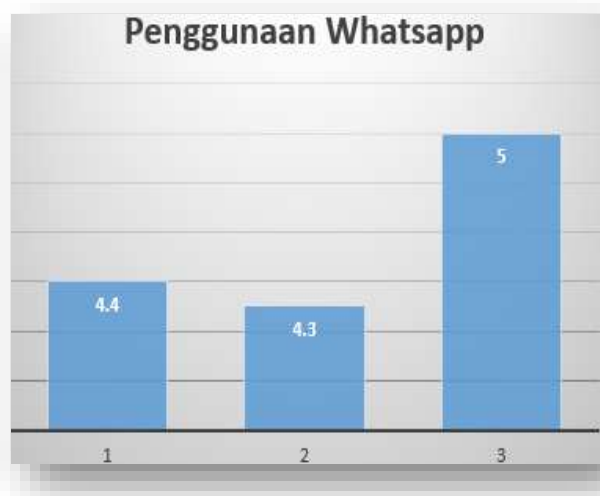
From the data above students mostly use Images and Documents as a learning style that is easy to use and the least or almost not used is Video Call media in learning styles.

The relationship between learning styles and WhatsApp media during the Covid-19 period



There are learning styles with:

- The mean (1) on the graph is 3.8
- The median (2) on the chart is 3.7
- The mode (3) on the graph is 5



And from whatsapp usage data:

- The mean (1) on the graph is 4.4
- The median (2) on the chart is 4.3
- The mode (3) on the graph is 5

Normality test

The Kolmogorov-Smirnov and Shapiro-Wilk tests are calculated using SPSS to obtain information on whether the data is normal or not. It can be seen from the SPSS results below:

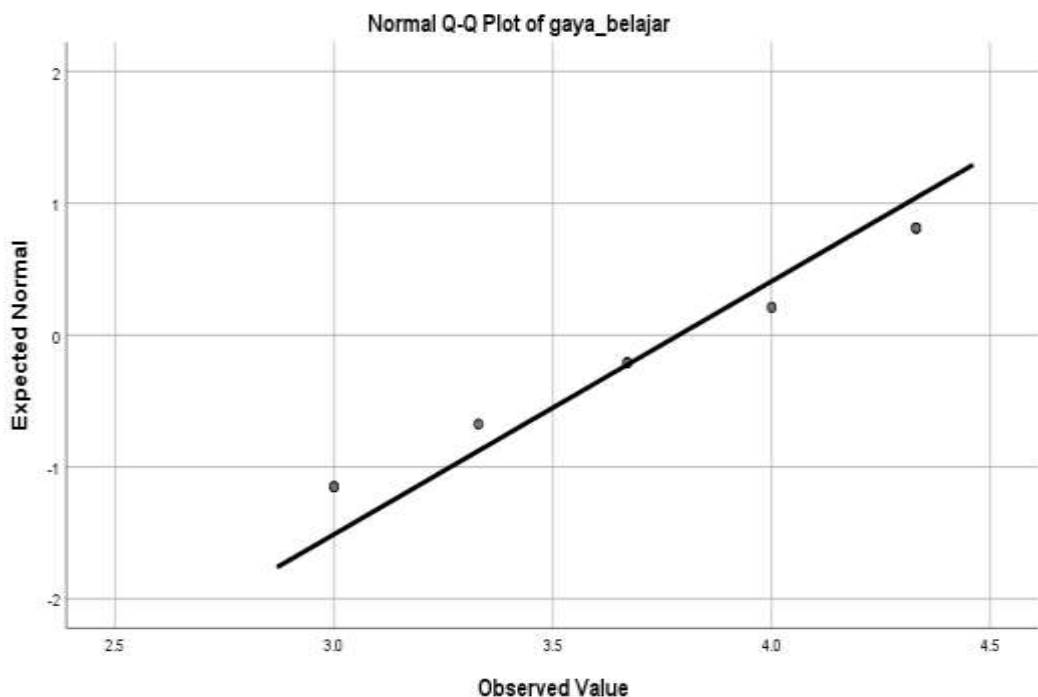
### Tests of Normality

|              | Kolmogorov-Smirnova |   |      | Shapiro-Wilk |   | Sig. |
|--------------|---------------------|---|------|--------------|---|------|
|              | tatisti             | f | ig.  | tatisti      | f |      |
|              | cs                  |   |      | cs           |   |      |
| Style_learn  | 215                 | 1 | 165  | 862          | 1 | .061 |
| Use_Whatsapp | 167                 | 1 | 200* | 933          | 1 | .438 |

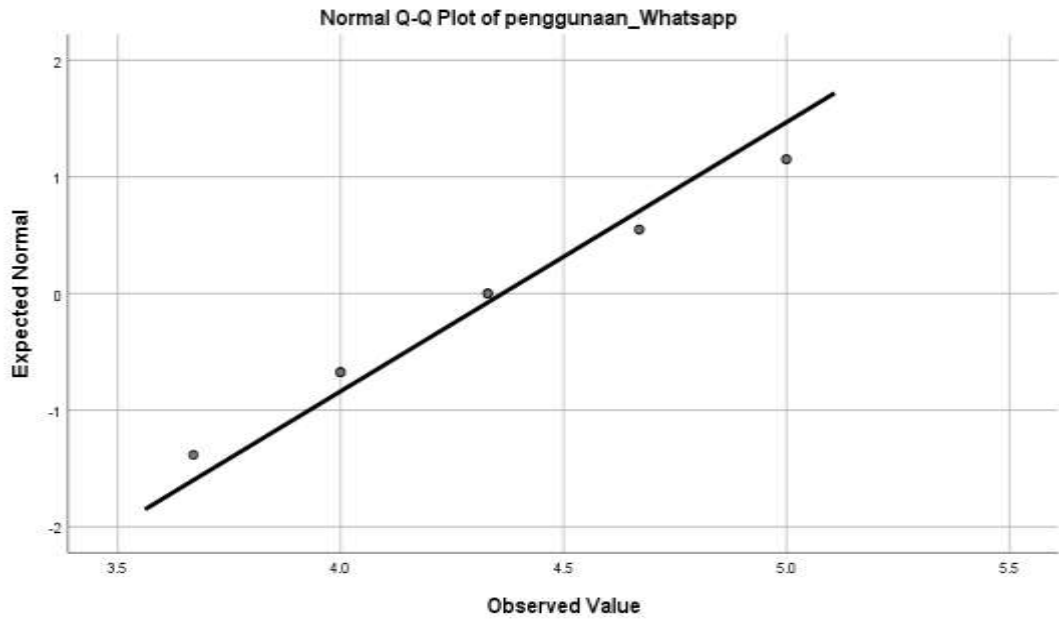
\*. This is a lower bound of the true significance.

#### a. Lilliefors Significance Correction

Based on the normality test using the Kolmogorov-Smirnov 0.16 and Shapiro-Wilk 0.06, the sig is greater than 0.05, so that the data on learning styles and WhatsApp users are normally distributed.



It can be seen that the data from the results of learning styles are mostly around the line, so this shows that the data is normally distributed.



It can be seen that the graph is normally distributed because the points are around the line. For this reason, WhatsApp users also have a normal distribution.

We can prove that learning style has an effect on WhatsApp media during the Covid-19 period from the correlation calculations below:

With hypothesis:

- Ho = There is a relationship Learning Styles of Telecommunications Engineering Students Using WhatsApp Media During the Covid-19 Period in the 2020-2021 Study Year

- H1 = There is no relationship between the learning styles of telecommunications engineering students using WhatsApp media during the Covid-19 period in the 2020-2021 academic year

#### correlations

|             |                     | le<br>arning_st<br>yle | use_Whatsapp |
|-------------|---------------------|------------------------|--------------|
| Style_Learn | Pearson Correlation | 1                      | .083         |
|             | Sig. (2-tailed)     |                        | .808         |
|             | N                   | 11                     | 11           |

|              |                     |      |    |
|--------------|---------------------|------|----|
| use_Whatsapp | Pearson Correlation | .083 | 1  |
|              | Sig. (2-tailed)     | .808 |    |
|              | N                   | 11   | 11 |

From the sig value of learning style and the use of whatsapp, the value is sufficient to be said to be influential because the sig value is more than 0.05 Ho, which is 0.08

~ If the value is accepted, the sig value must be > 0.05 Ho

~ If the value is rejected, the sig value must be <0.05 Ho

### Variables Entered/Removed

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|--------|
| 1     | use_Whatsapp      | .                 | enter  |

a. Dependent Variable: learning\_style

b. All requested variables entered.

This table shows what variables are processed, which are the independent variables and the dependent variable, so the independent variable is the learning style and the dependent variable, WhatsApp users

### Summary models

| Model | R     | R Square | Adjusted R Square | std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1     | .083a | .007     | -.103             | .54718                     |

a. Predictors: (Constant), usage\_Whatsapp

The R value is the correlation coefficient symbol. Because the R value obtained is 0.08, it can be said that the results of learning styles and WhatsApp users are related.

## **CONCLUSION**

Based on this research, the WhatsApp media which is often used for the learning style of telecommunication engineering students during Covid 19, namely pictures and documents, is as much as 90%.

The results of the correlation or relationship between the learning styles of telecommunications engineering students and the use of whatsapp media is 0.08, this means more than 0.05 if more thenHo received, “There is a RelationshipThe Learning Style of Telecommunications Engineering Students Using Whatsapp Media During the Covid-19 Period in the 2020-2021 Study Year”

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