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Classroom Management E-Learning Madrasah by WhatsApp Media Assistance in Science Learning During the Covid-19 Pandemic at Mtsn Palu City

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Abstract

This study aims to describe (1) the use of Madrasa E-Learning assisted by WhatsApp media in science learning and (2) the obstacles experienced by teachers in utilizing Madrasa E-Learning assisted by WhatsApp media during the COVID-19 pandemic at MTsN Palu City. This study employed a descriptive qualitative research design. Data were collected based on factual conditions in the field to produce descriptive data in the form of written and spoken information obtained from participants. The respondents consisted of 18 science teachers from MTsN Palu City. The research instruments included a questionnaire containing 55 statements and interview guidelines. The findings revealed that the implementation of Madrasa E-Learning assisted by WhatsApp media was categorized as very good, with an average score of 84.63. The use of WhatsApp media also achieved a very good category with a score of 86.67, while science learning obtained a good category with a score of 80.37. However, teachers encountered several obstacles, including the need for large internet data quotas, unstable network connections, limited mobile phone memory, and difficulties managing extensive WhatsApp discussions. Overall, the utilization of Madrasa E-Learning assisted by WhatsApp media was considered very good and provides valuable input for improving future online science learning practices.

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Introduction

At the beginning 2020, the world is shocked with the outbreak of a new pneumonia that started from Wuhan, later Hubei Province spread with fast to more of 190 countries and territories. Plague this given the name coronavirus disease 2019 (covid-19) is caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). Deployment disease this has give impact large by social and economic. Not except in field education give very impact significant in change system long learning this conducted with stare advance then must changed with system activity learning in network (online).

Various alternative distance learning applications are an option for teachers to carry out intense communication with students, including using *Google Classroom, Microsoft Office 365, Schoology, whatsapp* and there are many online learning applications that can be chosen to ensure the continuity of the teaching and learning process. Teachers are required to master technology, information and communication in order to ensure the implementation of the online teaching and learning process for students. (Hikmah. 2020).

E-learning is abbreviation from *Electronic Learning,* is method new in the learning process teaching using electronic media especially the internet as system the learning. The application of e-learning offers one method learning that enables the learning process conducted distance far as well as bring a new atmosphere in a variety of learning development. Especially with situation where whole Public must obey appeal government for do physical distancing with to do whole activity good that study, work and worship in home. With without remove essence, activity study could carried out by students and teachers with e-learning so that utilization available time Becomes more effective and efficient because it takes less time and cost. (Hartanto, 2016)

Based on the results of observations that have been carried out in state tsanawiyah madrasas related to how prepared teachers are in utilizing information and communication technology in science learning, that there is some information, including state tsanawiyah madrasas located in the city of Palu using a learning application called *e-learning.* Madrasa *learning* released by the Ministry of Religion of the Republic of Indonesia from MI, MTs and MA levels that must be used by madrasas under the auspices of the ministry of religion from the covid 19 period onwards. Because this application is directly monitored teaching and learning activities from the central server of the ministry of religion

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could accessed for 24 hours by the user (*user)* During user have stable internet access and have a username and password for access *madrasa e-learning* for make it easy implementation learning distance far in skeleton answer challenge progress increasingly technology forward. (Rizaldi, 2021).

The role and function *of madrasa e-learning* itself is to help the learning process continue even in the midst of the covid-19 pandemic, to provide more efficient learning time because online learning can be accessed anywhere and anytime, and to facilitate interaction between teachers and students with there are discussion chat features, *video conferences*, and other features. (Al, 2021).

Madrasa tsanawiyah city state Palu also provides more information which in addition to the *Madrasah E-Learning application they also use WhatsApp* media as a learning support when the *Madrasa E-learning* server *down* so it can't be accessed. They do this so that the teaching and learning system can still continue as it should. The function of *whatsapp* itself is as a provider of information about things that need to be considered in ongoing learning whether in the form of attendance information, assignments, and portfolios that must be collected and this information is informed through whatsapp group which has been created and agreed upon by members of the entire class and the teacher as a medium of information at each level. (Chandra, 2021).

The application of madrasa *e-learning* in learning in terms of planning which includes teachers being able to create *online classes,* provide teaching materials and create learning tools in madrasa *e-learning.* Second, in terms of implementation, it includes teachers and students carrying out learning from the introduction, core activities, to closing the *E-Learning* Madrasah. Every Madrasah *E-Learning user has an account (user and password*) to log into the ngo (*Learning Management System*). Students can download teaching materials, send assignments by uploading their work to the *Learning Management System*. Third, in terms of evaluation, which includes teachers can give assignments through *E-Learning* Madrasas and teachers can provide direct assessments in *e-Learning* madrasas. The person in charge and the madrasah principal as well as madrasa supervisors can monitor and assess teacher performance online in madrasa *e-learning.* (Khotimah, 2020)

Based on study previously by (Hikmah. 2020) and research from (Montohar, 2021). Disclose that application Proven *Madrasa e-learning* beneficial as technique learning in Century Pandemic Where is the Coronavirus Disease 2019 (Covid-19) there is positive direction or show indicator utilization application *Madrasa e-learning* in learning distance far increase as well as participant educate have great motivation in online learning using e-learning madrasas. Though still there is a number of constraint so that there is part participant students who haven't can access application *Madrasa E-Learning* like constraint network, problem devices and constraints information.

One important component in education, especially in the development of *e-learning* is a professional teacher. Professional teachers are required to have good ICT skills and be able to apply them in the teaching and learning process. (Darmadi, 2016).

Teachers are expected to be able to create interactive virtual classes so that communication between teachers and students can still occur even though it is done online. But in reality, during this pandemic, most teachers complain about the difficulty of the online learning process. (Wahyono, 2020).

Understanding of applications and distance learning media above, teachers are required to be proficient and understand information and communication technology. So that what will be seen is how prepared a science teacher is in concocting science learning by utilizing information and communication technology. because in science learning there is the essence of science that affects the teaching and learning process of science. because with a clear understanding will make teachers and students able to carry out their duties in teaching and learning science in accordance with the nature of science.

In the process of teaching and learning science, teachers must realize that there are three things that cannot be separated from science, namely processes, products and scientific attitudes. Science as a product is an accumulation of the results of the efforts of previous scientific scientists through the scientific method, namely carrying out appropriate and correct processes and procedures to produce a finding. These scientific products are generally in the form of facts, concepts, principles, laws and theories that have been systematically and completely arranged in the form of textbooks. (Natividad, 2022)

Science textbooks are the *Body of knowledge* of science. Textbooks are important but there is another side that is no less important, namely the process dimension. Science as a process is in the form of scientific procedures and processes carried out by scientists in finding scientific products. This scientific procedure should also be trained to students as a provision for them later in seeking and developing knowledge. In addition to products and processes in science, there are also dimensions of scientific attitudes, which are attitudes that scientists should have both in carrying out scientific procedures and in communicating their findings.

The cultivation of scientific attitudes should also be carried out in the teaching and learning process of science to train students to have positive scientific attitudes as a provision for the formation of good student characters such as the attitudes of scientists. A comprehensive understanding of the nature of science will affect the implementation of appropriate science learning so that it will produce

goals that are in accordance with what is expected from science learning. (Ali, 2018).

Materials and Method

This research was carried out in the state madrasah tsanawiyah in the city of Palu. The time of this research was carried out in the even semester of the 2021/2022 academic year. Taking into account the state of the *Coronavirus Disease 2019* pandemic situation at that time it decreased to 9,629. (Kemenkes RI. 2022).

Retrieval subject study there is various type sampling technique used, one of which that is *purposive sampling*. *Purposive sampling* is technique taking sample data source with consideration certain (Sugiyono. 2011) Criteria used for taking subject is as following:

1. Madrasa teachers at MTsN 1 Palu City, MTsN 2 Palu City, MTsN 3 Palu City and MTsN 4 Palu City.
2. Teach eye lesson science/IPA.
3. Ready for Becomes resource person/ informant in study this.

Subject in study this is a teacher at a state madrasah tsanawiyah in the palu city on eye science lessons totaling 20 staff educator/teacher who after pass phase observation only 18 power educators/ teachers consist of of 3 men and 15 women who stated ready for Becomes resource person/ informant in study this.

Instrument study in the form of questionnaire question items totaling 55 items, each category consisting of 20 questions Madrasa *e-Learning*, 20 Whatsapp media *questions* and 15 science learning questions that have been validated by Dr. H. Amiruddin Hatibe, M.Si

Deployment technique research instrument questionnaire distributed directly to the eye teacher Science lessons at MTsN in Palu City with permanent notice protocol health.

Questionnaire analysis to measure teacher attitudes, opinions, and perceptions/responses using a Likert scale 1-5 and 1-4 on question where the score given is the level of confidence, the greater the score given, the greater the level of confidence.

Based on the Miles and Huberman model in Sugiyono, (2012), the data analysis process is carried out with the following steps.

1. Reduction (Data Reduction)
2. Presentation (Data Display)
3. Conclusion Drawing/Verification

Results and Discussion

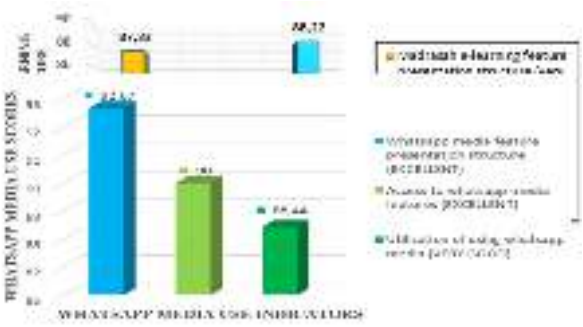
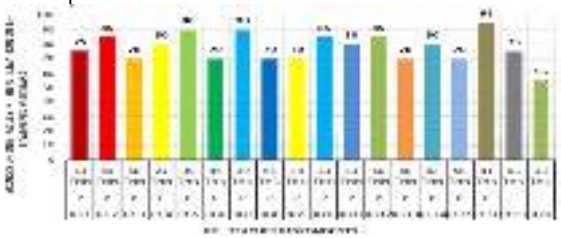


Figure 1. Utilization *of Madrasah E-Learning* Classroom Management In Learning Science seen from indicator structure presentation feature, access to vitur as well as benefit its use.

Based on utilization data management *madrasa e*-learning above can be seen that the average yield study third indicator application *madrasa e-learning* forlearning science could categorized as good and very good on indicator 1 regarding structure score vitur *e-learning madrasas* get an average score of 87.33 with criteria presentation (very good) with the average value per item score varies from score maximum i.e. 100 minimum 80. Indicator 2 regarding access to vitur *e-learning madrasas* get the average score of 78.33 with criteria (good), with value per-score item value varies from score



maximum i.e. 95 minimum 55. Indicator 3 regarding Utilization use application *e-learning madrasas* get an average score of 88.22 with criteria (very good) with average value per score item value varied from score maximum i.e. 100 is at least 72. With thereby could is known that results score the average value of third indicator about utilization *Classroom Management E-Learning Madrasas* in Science Learning seen from indicator structure presentation feature, access to vitur as well as benefit its use for teachers at madrasah tsanawiyah palu city beneficial in the learning process science and get the average score of 84.63 shows category presentation (very good).

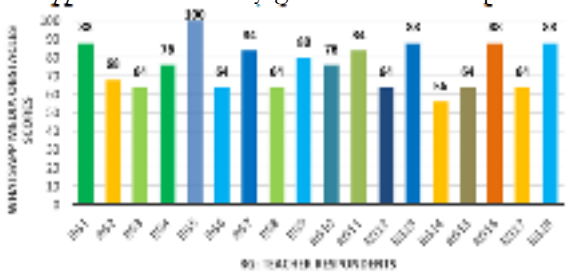
Figure 2. Obstacles that occur in utilization of Madrasah Classroom Management *e-Learning* in learning science seen from indicator performance application *madrasa e-learning*.

Based on the data inhibiting the use of madrasa e-learning above, it can be seen that the average research results inhibiting the performance of madrasa e-learning applications for science learning can be said to have the same strength in the use of madrasa e-learning with an average score of 77.50 with the average value per item score varies from values 55, 70, 75, 80, 85 to 90. If in the per-question analysis in the questionnaire, many experience

obstacles when logging in to the madrasa e-learning system requiring a hefty quota. It is large and requires a stable network. Respondents said that the issue of internet quota has been provided by the government for religious affairs and also school operational assistance funds for learning purposes.

Figure 3 use of *whatsapp* media In Learning Science seen from indicator structure presentation feature, access to vitur as well as benefit its use.

Based on *WhatsApp* media utilization data management on can be seen that the average yield study third indicator use of *whatsapp* media for learning science could categorized as very good. on indicator 1 regarding structure presentation whatsapp media *features* get the average score is 92.67 with criteria score very good with the average value per item score varies from score maximum i.e. 100 minimum 80. Indicator 2 regarding access to media features *whatsapp* get average score of 90.00 with criteria score ok, with value per-score item value varies from score maximum 100 minimum 65. Indicator 3 regarding Utilization *whatsapp* media usage get the average score of 88.44 with criteria presentation very good with average value per score item value varied from score maximum i.e. 100 minimum 72. With thereby could is known that results score the average value of third indicator about use of *whatsapp* media in learning science seen from indicator structure presentation feature, access to vitur as well as benefit use get the average score of 90.37 shows category presentation very good so *whatsapp* media this very good used for help in the



learning process especially on apps *madrasa e-learning* in learning science.

Figure 4. the *obstacles* that occur in the use of whatsapp media in learning science seen from indicator *WhatsApp* media performance.

Based on the data processing of the obstacles that occur in the use of whatsapp media above, it can be seen that the average results of research on performance barriers on whatsapp media for science learning can be said to have the same obstacles. The WhatsApp media performance barrier indicator gets an average score of 75.56 with the average value per item score varying with values of 64, 68, 76, 84, 88 to 100. If analyzed there are questions on WhatsApp media that have on average, all experience the same obstacles, namely when the cellphone memory is full, disrupting the operation of the cellphone so it doesn't work properly so that it has an impact on teaching and learning activities, and complains about the cost for internet quota. who haven't have an android phone.

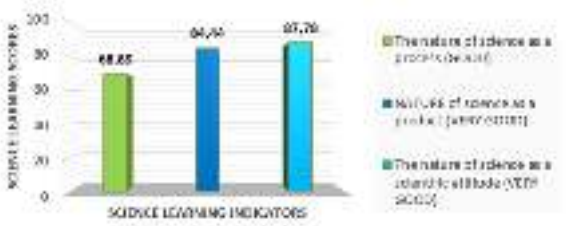


Figure 5. graph of average value indicators on learning science (truth science)

Based on results management of indicator data in learning science above shows that the indicator teacher's ability in science/science as a process in online learning use *madrasa e-learning* whatsapp media *help* enter in category good. on indicator 1 regarding understanding the concept of IPA as a process of obtaining the average score of 68.89 with criteria presentation good with the average value per item score varies from score maximum i.e. 100 at least 20. Indicator 2 regarding understanding the concept of science as product get the average score of 84.44 with criteria presentation very ok, with variable value per item score from score maximum i.e. 100 at least 40. Indicator 3 regarding understanding the concept of science as attitude scientific get the average score of 87.78 with criteria very good with the average value per-score item value varied from score maximum i.e. 100 at least 20. With thereby could is known that results the average value of third indicator about the ability of teachers in the city state Madrasah palu city in reality science in the learning process science get the average score of 80.37 shows criteria good.

Interview Results

After giving the respondent's questionnaire test to see utilization and barriers teacher in application media -assisted *madrasa e-learning whatsapp* in learning science at MTsN palu city. Next conducted Interview to selected respondents in accordance with predetermined criteria. Questionnaire results and results Interview are verified and compared to corroborate results in depth on how to use and constraints *madrasa e-learning* application *assisted by whatsapp* media in science learning.

1. Respondents who received score with category very good

   RG7 respondents are respondents who received score very average value good of 3 components aspect you want seen in research this. Among them is aspect application *madrasa e-learning* get score average score 95, whatsapp media aspect 93 and learning science get average value of 100.
2. Respondents who received score with category good

   RG4 respondents are respondents who received score good average of 3 components aspect you want seen in research this. Among them is aspect application *madrasa e-learning* get score average score 88, whatsapp media aspect 90 and learning science get average value 93.
3. Respondents who obtained scores with sufficient category

Respondents RG 11 are respondents who get a sufficient average score on the aspects of learning science of the 3 components of the aspects that want to be seen in this research. Among them are the aspects of *the madrasa e-learning application* getting an average score of 78, the whatsapp media aspect of 85 and science learning getting an average score of 47.

4. Respondents who obtained scores in the less category

Respondents RG 18 are respondents who get an average score of less on aspects of learning science of the 3 components of the aspects that want to be seen in this research. Among them are the aspects of *the madrasa e-learning application* getting an average score of 78, the *whatsapp* media aspect 95 and learning science get an average value of 33.

The progress of the development of information and communication technology makes learning turn into technology-based learning. Since the implementation of learning at home due to the spread of the Covid-19 virus. This is very influential in the field of education, and one of them in the teaching and learning process. In this case, the government issued a Circular Letter of the Minister of Education and Culture number 4 of 2020 concerning the implementation of education policies in the emergency period of the spread of COVID-19 which contains:

"The learning process is carried out with the following conditions: learning from home through online learning is carried out to provide a meaningful learning experience for students, without being burdened with demands to complete curriculum achievements for grade promotion and graduation".

Utilization *of Madrasah Classroom Management E-Learning* in Science.

Implementation utilization *madrasa e-learning* in learning science this related with various action taken for implement and realize the programs that have been arranged to achieve destination from programs that have planned. *madrasa e-learning* in learning this reviewed from three aspect, that is planning, implementation and evaluation.

1. Planning

Which one in *e-learning madrasa* teacher design planning learning with create and upload Teaching Materials, LKPD for planning a practicum.

2. Implementation

Next after conducted learning process planning, then conducted implementation learning practice with use *madrasa e-learning*. Implementation learning through *e-learning madrasa* teachers do preliminary learning more formerly with notification through steps practice use video *conference and whatsapp* media after that next with core activities learning participant practicum educate record using their android phone each.

3. Evaluation

Furthermore, in the evaluation of the teacher guiding student for send practicum video assignment they to in application *madrasa e-learning* on vitur evaluation Skills or to the *whatsapp* media *group* for given feedback to participant educate in accordance with Theory practicum delivered. This practicum given to participant educate as one reject measuring in success During online learning.

Utilization *madrasa e-learning, at the palu* city state madrasah tsanawiyah in category very good in its use in the learning process science during this covid-19. showed with the average score on the questionnaire of 84.63 (very good) which is followed with score achievements each indicator in indicator 1 regarding structure presentation vitur *e-learning madrasas* get the average score is 87.33 with category (very good), Indicator 2 regarding access to vitur *e-learning madrasas* get the average score of 78.33 with criteria category (good), Indicator 3 regarding Utilization use application *e-learning madrasas* get the average score of 88.22 with criteria category (very good), result this supported with Interview to respondents RG7, RG4, RG11, and RG18 and also the results this in line with study from Wisdom. (2020). Safitri, (2022). Ashoumi, (2022), & Firmansyah, (2021). which states that *Madrasa e-learning* can be one of the the primary means of choice for the implementation of effective and effective teaching and learning activities during the 2019 *Coronaviruse Disease pandemic.*

From the results of the above explanation regarding the histogram of distance learning applications, it shows: *madrasa e-learning* applications have differences from each aspect seen from the features aspect, application display, time, video display *conference,* vitur exam *computer based test,* security and cost. These results indicate that the *madrasa e-learning application* is superior to used as distance learning compared to using other applications. This is due to the use of *madrasa e-learning applications,* especially in terms of cost, the use *of madrasa e-learning* is free, while *Zoom Meetings* are paid for users. And display vitur for *google classroom* and *google meet* no complete application Madrasa e-*learning* specially made for the learning process

obstacles in the use *of Madrasah Classroom Management E-Learning* in learning science.

The obstacles you get in the learning process with application *madrasa e-learning* get the average score is 77.50. with average value per score item value varied from score maximum is 90 and the value minimum is 55. From the value of the can our see that many obstacles faced by MTsN teachers palu city in use *madrasa e-learning*. If the analysis of the average MTsN teacher palu city have same obstacle that is application *e-learning madrasa* often occur error on the application system, when video conference learning *madrasa e-learning* always constrained with network, need stable network when access it, madrasa e-learning requires a lot of internet quota so you can login to in the system,

ordinary madrasa e-learning occurs (not responding), the teacher does not could knowing by direct reason students who don't follow learning. poor network connection, resulting in students being slow to collect their assignments. Aspect usage technology information and communication. And there is a relationship between the age factor and interest, fluency in the use of Information and Communication Technology (Source Questionnaire and Interview).

This result in line with study from (Palupi. 2015) the influence of the age factor on the interests and abilities of Civics teachers in the use of information and communication technology.

use of whatsapp media *in* application *Madrasah E-Learning* on Science.

Utilization of *whatsapp* media in palu city state madrasah in its use as help on app *madrasa e-learning* in the learning process science during the covid-19 pandemic, come in in category (very good). showed with the average score on the questionnaire of 86.67% (very good) which is followed with score each in indicator 1 regarding structure presentation whatsapp media *features* get the average score is 92.67 with criteria category (very good), Indicator 2 regarding access to media features *whatsapp* get the average score of 90.00 with criteria category (good), Indicator 3 regarding Utilization *whatsapp* media usage get the average score of 88.44 with criteria category (very good), can interpreted that teachers at MTsN Palu City with existence *whatsapp* media help this very helpful and useful in learning process activities teaching during the COVID-19 pandemic. and also results this in line with study from Naserly, (2020). Prajana, (2017). Oktriana, & Novianto, (2022). which states that *whatsapp* media can be one of the the means of choice for the implementation of effective and effective teaching and learning activities during the 2019 *Coronaviruse Disease pandemic*.

Barriers that occur in the use of media *whatsapp* in learning science.

The obstacles you get in the learning process with *whatsapp* media get the average score is 75.56. with average value per score item value varied from score maximum is 100 and the value minimum is 64. From the value of the can our see that many obstacles faced by MTsN teachers palu city in use utilization *whatsapp* media help. If the analysis of the average MTsN teacher palu city have same obstacle that is when disturbance signal/network impact on the learning process through whatsapp, when phone memory is full, annoying mobile phone operation no work with good so that impact on activity study teach, when using whatsapp media participant educate can be monitored with maximum in the learning process, no all student have an android phone, in whatsapp media usage in connectivity, accessibility participant educate complained cost for internet quota. (Questionnaire data source Instrument research)

The ability of teachers in mtsn city hammer in the learning process science (truth science)

Understanding teachers about the nature of science learning is still very varied. However, the teacher's ability to understand the nature of science as a scientific attitude is far higher than the ability to understand the nature of science as a process and product. The ability of teachers to understand the nature of science as a scientific attitude achieves an average value of 87.78, while the ability of teachers to understand the nature of science as a product reaches an average value of 84.44 and the ability of teachers to understand the nature of science as a process achieves the highest score. low by average value 68, 89. These results have an impact on the ability science teachers in the implementation of learning where almost all teachers are better able to apply the nature of science as a scientific attitude and product of on the application of IPA as a process.

This fact shows that teachers still ignore the development of students' science process skills, through the process of learning science in science learning, namely the lack of in training science process skills participant beginning with the problem formulation process to communicating the results of their investigations. This happens because the limitations of the learning process during the covid-19 pandemic and teachers also view that science places more emphasis on mastering the concepts of students so that teachers only focus on learning participant concept achievement cognitively and pay less attention to the development of affective and psychomotor aspects. This happens because teachers view science more as a collection of concepts of knowledge about objects and creatures that exist in nature and all their phenomena so that the target for teachers in teaching science is concept achievement (Wawan & Dewi, 2010).

Research results this in line with Oviana, (2015). which states teachers who understand the nature of science well will have an impact on the implementation of learning that integrates the principles of the nature of science in learning as a whole and comprehensively and vice versa teachers who do not understand the nature of science tend to only teach science concepts in learning and only focus on one aspect of the nature of science.

connection application *madrasa e-learning* whatsapp media *help* with learning science on achievement reality science.

Information and communication technology plays an important role in making it easier for humans to be able to communicate with each other quickly, easily, and affordable. In other words, information and communication technology can simplify and enhance the quality of human life . Information and communication technology It also

plays a very important role as a learning infrastructure during this COVID-19 pandemic where teaching materials are available in digital format so that the learning process can be done anywhere and anytime. So that participants Students do not have to be fixated on learning at a predetermined place and time.

Interview results with Palu City MTsN teacher, relations in learning science/science use *madrasa e-learning* whatsapp media *help* deemed to have been effective in providing training, teaching materials, and tests related to knowledge and skills. Teacher respondents stated that *madrasa e-learning* whatsapp media *help* already good in meeting the needs of science learning, especially in achieving the nature of science as a process, scientific products and attitudes in online learning. With thereby The existence of technological developments in the field of education provides convenience for teachers and students in teaching and learning activities during this covid-19 pandemic.

From some of the descriptions that have been described, according to the opinion of experts, namely Hartley, (2001). which states that *e-learning* is a type of teaching and learning that allows the delivery of teaching materials to students using the Internet, Intranet or other computer network media. While *Learn Frame.Com, (2001).* in the *Glossary of e-learning Terms*, states a broader definition, that *e-learning* is an educational system that uses electronic applications to support teaching and learning with internet media, computer networks, or *stand-alone computers*.

Conclusion

The use of madrasa e-learning applications in science learning got an average score of 84.63 in the (very good) category. Meanwhile, in the e-learning application, science learning madrasas get an average score of 77.55. The use of whatsapp media in science learning got an average score of 90.37 in the (very good) category. While the whatsapp media barriers in science learning get an average score of 75.56. The ability of teachers to understand the nature of science as a scientific attitude reached an average value of 87.78 (very good) while the ability of teachers to understand the nature of science as a product reached an average value of 84.44 (very good) and the ability of teachers to understand the nature of science as a process of achieving grades with an average value of 68.89. (good).

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