



Analysis of Students' Perception toward Online Biology Learning using E-Learning Madrasah at Islamic Senior High School (MAN) Penajam Paser Utara

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ABSTRACT

Online learning is extremely common during the Covid-19 pandemic. That sudden alteration, from offline to online learning affect the learning process including the perception of students and teachers using online learning platform. The aims of this study are to determine the students' perceptions of class XI MIA on online biology learning by using Madrasah E-Learning at MAN Penajam Paser Utara. The data was collected by conducting the observations, interviews and questionnaires. The questionnaire was in Likert scale form that has been valid and reliable ($r_{\alpha} = 0,836$) with a very strong category. The indicators that were studied include the indicators of student activity, indicators of student perceptions of Madrasah E-Learning and the indicators of factors that affect learning in network (online). Descriptive statistical techniques were the data analysis technique that was used in the form of descriptive, frequency distribution and percentage. The results showed that the activity based on the attendance and collection of student assignments during online biology learning was in the good category. Students' perceptions of Madrasah E-Learning are in very positive category with 63.89%. However, the use of Madrasah E-Learning is still not effective due to network constraints and the lack of teacher skills and knowledge regarding the use of Madrasah E-Learning features. The factors that influence learning in the network include learning support facilities such as cellphones and laptops, network factors and internet quotas, motivational factors, learning interest factors, family factors, home atmosphere factors, environmental factors, and economic factors.

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Keywords: Perception, Madrasah E-Learning, Online Learning

Introduction

Covid-19 pandemic has changed the way world works. Before the pandemic, all of activity were conducted offline while during the pandemic, it changed dramatically to online activities including all of learning process. According to official circular from ministry of education, culture, research, and technology no. 4 and 15, year 2020, all of learning process should be diverted in online learning or also known as "Belajar dari Rumah (BDR) (Kementerian Pendidikan, Kebudayaan, Riset, 2020); (Sekertaris Jendral Kementerian Pendidikan dan Kebudayaan, 2020).

At February, 7th, 2021, in Kalimantan Timur, there are 45.562 positive cases of Covid-19 (Dinas Kesehatan Kalimantan Timur & Berita, 2020). In addition, due to the increasing number of the positive cases, Kalimantan Timur's Government decided to conduct BDR in their regions. One of school which conduct online learning is Madrasah Aliyah Negeri (MAN) Penajam Paser Utara, district Babulu, Kalimantan Timur (Kementerian Pendidikan, Kebudayaan, Riset, 2020). This school is under supervision of Ministry of Religion the Republic of Indonesia.

During the online learning process from 2022-2021, Ministry of Religion released e-learning Madrasah, an application for students who learn in Madrasah of Republic of Indonesia. This application is used for Madrasah Ibtidayah (MI), Madrasah Tsanawiyah (MTS), and Madrasah Aliyah (MA) to enhance structured, interesting, and interactive learning. It contains attendance list, uploading task button, Computer Based Test (CBT), learning materials download button, students' calendar, score display button, video conference, and many more. Besides those interesting features, this application is also free to access for all of the students. The usage of online learning allows more flexible learning (Authority, 2004). Due to the flexibility, varied perceptions are emerging from teachers and students.

Based on preliminary observation and interview to some teachers of MAN Penajam Paser Utara, it is known that majority of the teachers complaining about the lack of efficiency of using e-learning Madrasah. This problem is also reported in previous research, the research suggests that the usage of e-learning Madrasah in early pandemic era also was not effective both in enhancing students' affective and cognitive ability (Zuhri et al., 2020). One of the factors of successful online learning is students' perception (Yanti, 2020) (Azhari, 2021). This perception leads to students' activity and learning motivation (Lizzio et al., 2002); (Christiaens et al., 2014). In the previous research, the writer is not yet investigating the perception of students toward e-learning to gain information about students' perception and the online learning process. Understanding perception is important to decide next improvement of the program (Carreras-Marín et al., 2014). In this research, students' perception is divided into three main topics, they are student's participation, students' perception, and supporting factors of e-learning Madrasah (Yu, 2022). This research is aimed to describe the students' participation, student's perception, and supporting factors of e-learning Madrasah.

Methods

This research is descriptive research. Descriptive research is used to describe a phenomenon without giving specific treatment to the subjects (Nassaji, 2015). The duration of this research was 3 months, April-June 2021 at Madrasah Aliyah Negeri (MAN), Babulu Darat, Penajam Paser Utara, East Borneo. Subjects in this research was 51 students from XI grade science major. Data collection method was observation, questionnaire, and interview. In the observation method, writers used to be a nonparticipant observer that means the writers were not a part of observed group and also did not involve in the activities of the group. In addition, in this research, writers used questionnaire with Likert's scale to gain data about students' perception toward online biology learning. In the questionnaire, there are positive and

negative questions about students' enthusiasm during online learning, the usage of e-learning Madrasah in the Islamic school, and the factors affecting the online learning. Scoring provision as written respectively for positive statement are very agree (4), agree (3), disagree (2), extremely disagree (1) and vice versa for negative questions. All of the questionnaire were validated to see the validity and reliability of each question. The validity of questions was analyzed using *r* test with 5% signification rate and the reliability of the questions were measured using *Alpha Cronbach Test*. In the questionnaire, there are three main topics and sixteen questions about students' participation, perception, and the supporting factors regarding students' answers.

Furthermore, structured interview was conducted to triangulate the data. The participants in the interview are randomly chosen students and teachers who already filled the previous questionnaire. Data from questionnaire then analyzed using descriptive statistic including mean (*Mi*) and deviation standard (*SDi*) (Murti & Panggayuh, 2019). Below are the equations for measuring *Mi* and *SDi*:

$$Mi = \frac{\text{Maximum ideal scores} + \text{minimum ideal scores}}{2}$$

$$SDi = \frac{\text{Maximum ideal scores} - \text{Minimum ideal scores}}{2}$$

After that, the data then compared to Table 1 below.

Table 1. score interval and categories

Score interval	Categories
$X \geq (Mi + 1.SDi)$	very positive
$Mi \leq X < (Mi + 1.SDi)$	positive
$(Mi - 1.SDi) \leq X < Mi$	middling
$X < (Mi - 1.SDi)$	negative

After gaining the scores, percentage of each category then analyze using following formulation:

$$P = \frac{\sum F}{\sum N} \times 100\%$$

With:

- P = percentage of students' perception based on item
- $\sum F$ = the number of students who choose the certain answer
- $\sum N$ = the number of all respondents

All of the questionnaire question set had been tested to measure the validity and reliability. The validity and reliability of the questionnaire set was conducted to 35 students from XII Grade Science Major. The validity of the questionnaire was tested using correlation product moment with 5% significance level and the reliability was tested using alpha Cronbach's. The sampling class is grade XI Science Major at MAN Penajam Paser Utara. From the validity test, 16 of 20 questions were declared valid and reliable ($r_{\text{alpha}}=0,836$). Those invalid questions were excluded from the questionnaire. The questions in the interview including 1) how does students participate in the Biology online class using e-Madrasah, 2) what kind of activity students and teachers did during the online learning using e-madrasah, 3) how do students and teachers feel about the usage off e-learning Madrasah, 4) what is the correlated factors influenced the usage off e-learning Madrasah, and 5) what is the main

difficulties of operating and using e-learning Madrasah during the online learning both from students' and teacher's point of view.

Results and Discussion

There are quantitative and qualitative findings in this research. Quantitative data are gained from questionnaire about student's participation on online learning, students' perception towards online learning, and corresponding factors affecting the online learning. Moreover, qualitative data define the factors affecting the usage of e-learning Madrasah. The qualitative data are shown as paragraph.

Based on the research, in general, it is found that minimum score is 22, maximum score is 54, ideal mean is 38, and deviation standard is 5,33. Those general number than categorized into four categories as written in the Table 2 below.

Table 2. distribution of students' perception of grade XI science major in e-learning Madrasah biology class at MAN Penajam Paser Utara

No	Categories	Score Interval	Frequency	%
1	Very positive	$X \geq 43,33$	18	50,00
2	Positive	$38 \leq X < 43,33$	15	41,67
3	Middling	$32,67 \leq X < 38$	2	5,55
4	Negative	$X < 32,67$	1	2,78
Total			36	100

However, based on the result (Table 2), generally, students' perception toward biology learning through e-learning Madrasah process is very positive. In addition, each topic of the questionnaire is specified below.

1. Students' Participation in Online Learning (e-learning Madrasah)

In this topic, the students were given questions about their attendance time (while joining the online meeting) and discipline while submitting the tasks (Hikmah, 2020). The majority of the students have positive perception towards e-learning Madrasah (52,78%), and only 8,33% of the students who have negative perception about e-learning Madrasah (Table 3).

Table 3. distribution of students' participation indicators

No	Categories	Score Interval	Frequency	%
1	Very positive	$X \geq 11,33$	11	30,56
2	Positive	$10 \leq X < 11,33$	19	52,78
3	Middling	$8,67 \leq X < 10$	3	8,33
4	Negative	$X < 8,67$	3	8,33
Total			36	100

In this topic of questions, students have positive perception about e-learning Madrasah. This positive perception can be detected through students' statement. Majority of the students stated that they filled online attendance check and submitting the tasks on time as instructed by the teacher. The tasks itself, sometimes need to be submitted through online learning platform or whatsapp. Sometimes, students can also submit their works directly to teacher if they met the obstacle doing it online.

Although many students give very positive and positive response, the teachers stated that there was decreasing in students discipline to fill the online attendance over time. Usually, the amounts of students who fill the attendance list was 50-70% in the beginning of the semester

but, there were some cases when only 50% of students fill the list along with the time. Besides that, the number of students who fill the attendance list and who came to video conference (teachers checked both in attendance list and the video conference) is often different.

Similar to the case above, although many of students gave positive and very positive response, some of them did not submit the tasks on time but there are also whom submit it on time as recorded in Computer Based Test (CBT). This finding is in accordance to the finding of Hikmah (2020), which state that students show positive perception towards their participation in online learning (Hikmah, 2020). However, teachers should always check the attendance list during the class to make sure that the data in the attendance check is valid.

2. Perception Towards E-Learning Madrasah at MAN Penajam Paser Utara

Similar to the result of the general funding in the Table 2, students' perception toward e-learning Madrasah at MAN Penajam Paser Utara is very positive (Table 4). The majority of the students have very positive perception toward e-learning Madrasah (63,89%), on the other hand, only 2,78% of students do not have positive impression toward e-learning Madrasah.

Table 4. distribution of students' perception toward e-learning Madrasah at MAN Penajam Paser Utara

No	Categories	Score Interval	Frequency	%
1	Very positive	$X \geq 16$	23	63,89
2	Positive	$14 \leq X < 16$	10	27,78
3	Middling	$12 \leq X < 14$	2	5,55
4	Negative	$X < 12$	1	2,78
Total			36	100

The result above was gained thorough questions about accessibility of e-learning Madrasah, features eligibility, and user friendliness. Based on this result, it can be concluded that students have positive perception to e-learning Madrasah. This fact was gained by seeing students' interest in using e-learning Madrasah. Students stated that e-learning Madrasah are user friendly, interesting, and complete. E-learning Madrasah contains attendance list check, task submitting button, CBT, learning material, agenda, score button, conference, and others. Moreover, teachers' perceptions are also positive and the reasons are similar to students. Besides that, one special feature in e-learning Madrasah is "headmaster check", which make the real time learning checking possible for them. One interesting finding in this topic is the difference between students' and teachers' perception with the daily experiences. In the everyday activities, teachers only use it to check the attendance of the students and accessing the learning materials. The teachers are not familiar yet using e-learning Madrasah/the lack of IT literacy. This obstacle causes the loss of uploaded video or lesson plan and the usage of other application, which is disturb the effectiveness of using e-learning (Li & Yu, 2022) Madrasah. Although it is not effective, teachers still use this application to fulfil the reporting obligation to education authorities.

Other than that, although the response from student majority is very positive, in the interview, students stated that they preferer offline learning to enhance their conceptual understanding, this is because the hope from students to meet their friend and teachers (Megawanti et al., 2020)(Surani & Hamidah, 2020). These findings in line with Zuhri et al. (2020), which suggest that the usage of e-learning Madrasah during covid-19 pandemic is not effective (Zuhri et al., 2020).

3. Supporting Factors During Conducting e-Learning Madrasah

In this part, the result is similar to previous part (Table 4), majority of students' perception toward related factors during conducting e-learning Madrasah is positive (55,56%), in contrast, 2,78% of students gave negative score in this topic (Table 5). In this topic. Students gave their opinion about internet connection, staff', teachers, house and school environment.

Table 5. distribution of related factors during conducting e-learning Madrasah

No	Categories	Score Interval	Frequency	%
1	Very positive	$X \geq 16$	23	63,89
2	Positive	$14 \leq X < 16$	10	27,78
3	Middling	$12 \leq X < 14$	2	5,55
4	Negative	$X < 12$	1	2,78
Total			36	100

The crucial supporting factors are hardware, internet quota, connection, motivation, environmental, family support, economic factor (Al-Mobaideen et al., 2012), and staff support (Pham et al., 2021); (Yu, 2022). In accordance with the need of adequate internet connection, students from Babulu Laut and the region around, the adequate connection is hardly to find. Other than that, students' motivation also an important factor (Arianti, 2019)(Gustiani, 2020). During covid-19 pandemic, students' motivation decreasing due to unfamiliar online learning. In online learning system, students need to provide proper place, internet quota, and internet connection for maximum learning experience (Setyawan, 2021). This motivation reduction affects students' concentration. Environmental support including physical environment and psychological support from family also work together to make a better learning experience for students (Pratama & Kuswardani, 2021). The better the physical and psychological support the better motivation for students and it will help students to gain positive perspective to online learning. The last factor is economical factor. Students who have better parent's economical state would generate more positive perspective online learning than the one who does not (Moneva et al., 2020). This is due to the requirement of non-rich students to help their parents to get more money to survive during the pandemic.

Conclusion

Based on the result of the research, it can be concluded:

1. Students' participation (XI MIA) in e-learning madrasah learning is categorized as positive perception (52,78%). It was concluded based on attendance check, tasks submitted, and CBT test.
2. Students' perception on usage of e-learning Madrasah during the pandemic is very positive, with score 63,89% but in daily learning the usage of e-learning Madrasah still needs to be improved including teachers' skill and improvement of connection status.
3. Supporting factors of e-learning madrasah including hardware, internet connection, internet quota, motivation, physical and psychological support, and also economical factor.

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