Mathematic teachers’ perception on the use of moodle based learning management system in teaching mathematic during the time of covid 19

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Abstract. The aim of the study was to find out the Mathematic Teachers’ perception on the use of Moodle based learning management system in teaching mathematic during the time of Covid 19. The mix methods research design using quantitative and qualitative was used as the method of this research. Fifty six mathematic teachers from elementary to high school in Banyumas Regency were used as the respondents of this research. The questionnaire, semi structure interview and documents were used as a data collection method. Descriptive statistic and thematic data analysis was used as the technique in analyzing the data. The result showed that more than 40% teachers agree if Moodle facilities are very good or by the school and more than 60% teachers agree if the use of Moodle has positive impact to Mathematic learning. This research also got the result if teachers have negative perception on readiness of resources in using Moodle with more than 30% disagree if teachers are ready enough to use Moodle.

1. Introduction
The spread of the Corona Virus initially had a major impact on the sluggish economic world, but now the impact is affected by education world [1]. Policy that was taken by many countries include Indonesia by dismissing all educational activities, makes government and related institutions must present educational process alternative for students who cannot carry out the educational process in educational institutions [2-3]. Policy on the field of education that was taken by government related to COVID 19, such as: online learning for pupils, online lectures, national examination 2020 being negated, UTBK SBMPTN 2020 being postponed, and the implementation of SNMPTN is still be reviewed [4].

In the school environment, educational process until the end of academic year 2019/2020 fully done through online learning. Many schools are developing this online learning, one of them is by using Moodle based learning management system. MOODLE is one of open source applications in the form of website where the developer can use this application without paying the license. This application is enabling for teacher and students interact on digital learning process [5-6].

MOODLE has advantages such as free using, can be designed according to user needs. MOODLE based electronic learning will be able for students to follow learning activities such as materials, quizzes, and exams using the website [3]. In the implementation, there is an administrator that will design the materials, quizzes, exams, and tasks on the MOODLE website. The administrator can be done by the subject teacher concerned or other school parties who can operate the website [7]. Learning material can be delivered and updated according to student’s needs, so that the students still have Mathematics learning sources although they do not get textbook from schools [8-9]. Besides, this learning also can train students’ independence on learning activities [10-11].
Based on the background above this research aimed to find out the Mathematic Teachers’ perception on the use of Moodle based learning management system in teaching mathematic during the time of Covid 19

2. Research Methodology
Research methodology that used is Mix method using quantitative and qualitative method. The aim of this research is to find out the Mathematic teachers’ perception on the use of Moodle based learning management system in teaching mathematic during the time of Covid 19. This research was done on June-July 2020. 56 teachers from elementary until high schools are the samples in this research. Data collection technique that was used in this research is to give a questionnaire. This questionnaire contains closed question type for teachers to respond in 28 statements. The organization of the questionnaire was adjusted to the instrument grid based on the theoretical studies carried out. Questionnaire in this research was made in likert scale, each variable provide 4 alternative answers such as Strongly agree (SS), agree (S), disagree (TS), and Strongly disagree (STS). The following is the research instrument grid:

| Number | Indicators | Item number | Total |
|--------|------------|-------------|-------|
| 1      | Moodle based LMS facilities | 1,2,3,4 | 4     |
| 2      | The use of Moodle based LMS | 5,6,7,8,9,10 | 6     |
| 3      | Readiness of resources | 11,12,13,14 | 4     |

3. Result and Discussion
Descriptive analysis that used for analyzing data was by describing collective data from each variable studied after the research was carried out so that it is easier to understand. The following will be discussed data description through descriptive analysis from indicator of teachers’ perception on the use of Moodle.

3.1 Teachers’ perception on Moodle based LMS facilities
There are 5 questions that ask teachers’ perception on Moodle based LMS facilities. The following is the result:

| Number | Statements | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|--------|------------|----------------|-------|---------|----------|------------------|
| 1      | The facilities on Moodle are very complete for use in learning | 28% | 49,50% | 12,00% | 6,00% | 4,00% |
| 2      | The existing Moodle application has interesting features | 20,00% | 50,00% | 17,00% | 8,50% | 3,00% |
| 3      | Internet network to access Moodle LMS is strong enough | 34,50% | 37,00% | 20,00% | 5,00% | 3,50% |
| 4      | Moodle facilities make easier for teachers to teach | 28,00% | 45,50% | 14,50% | 6,00% | 4,00% |

From the Table 2 above, the result is obtained if most of teachers have a positive perception on facilities that are exist on Moodle. More than 40% teachers agree if the Moodle facilities are complete, have interesting features, and make teachers easier to teach.
3.2 Teachers’ perception on the use of Moodle

The result of teachers’ perception on the use of Moodle can be seen on Table 3 below:

| Number | Statements                                                                 | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|--------|----------------------------------------------------------------------------|----------------|-------|---------|----------|-------------------|
| 5      | Moodle helps me deliver material during Covid 19 times                     | 62,00%         | 21,50%| 12,00%  | 8,50%    | 1,50%             |
| 6      | Students are easier to access material through Moodle                      | 64,00%         | 12,00%| 8,00%   | 10,00%   | 1,00%             |
| 7      | Moodle helps me interact with students                                     | 64,50%         | 7,50% | 1,00%   | 15,00%   | 1,00%             |
| 8      | Moodle helps me to provide learning evaluation                            | 68,00%         | 4,50% | 1,50%   | 10,00%   | 4,00%             |
| 9      | Moodle makes it easy for me to provide feedback to students                | 60,00%         | 6,50% | 2,00%   | 18,00%   | 3,00%             |
| 10     | Moodle helps me in monitoring student activities                           | 68,50%         | 3,50% | 0,50%   | 9,00%    | 7,50%             |

The Table 3 above describe about teachers’ perception on the use of Moodle in learning process. From the table above is obtained if more than 60% teachers are strongly agree if Moodle gives easiness in learning process. Moodle makes teacher easier in delivering material during covid 19, interact with students, gives evaluation and feedback to students.

3.3 Teachers’ perception on readiness of resources in using Moodle

Table 4 below describe about teachers’ perception on readiness of resources on using Moodle. The result can be seen below:

| Number | Statements                                                                 | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|--------|----------------------------------------------------------------------------|----------------|-------|---------|----------|-------------------|
| 11     | Most of teacher are ready to use Moodle                                    | 16,00%         | 6,50% | 23,50%  | 48,50%   | 4,00%             |
| 12     | Teacher have good level of I proficiency on using Moodle                   | 15,50%         | 7,00% | 35,50%  | 37,50%   | 3,50%             |
| 13     | Teacher have good abilities in interacting through Moodle                  | 22,00%         | 13,50%| 23,00%  | 35,50%   | 3,50%             |
| 14     | Teacher have good abilities in developing evaluation tools through Moodle  | 14,00%         | 2,00% | 44,50%  | 37,50%   | 1,50%             |

From the table above, we can know that teachers have negative perception about readiness of resources in using Moodle. More than 30% of them are disagree if teachers are ready in using Moodle.

4. Conclusion

From the analysis result can be concluded if teachers have positive perception on facilities and the use of Moodle. More than 40% teachers agree if Moodle facilities are very good owned by the school and more than 60% teachers agree if the use of Moodle has positive impact to Mathematic learning. This
research also got the result if teachers have negative perception on readiness of resources in using Moodle with more than 30% disagree if teachers are ready enough to use Moodle.

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