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WHATSAPP ASSISTED MATHEMATICS ONLINE LEARNING DURING THE COVID19 PANDEMIC USING A CONTEXUAL APPROACH

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Abstract

This study aims to describe the results of online mathematics learning using a contextual approach during the pandemic covid 19. The media used to support learning is using the whatsapp application. The subjects of this study were students of class VIII C in one of the junior high schools in West Bandung Regency, which amounts to 25 students. The data collection technique was carried out by learning using a contextual approach in accordance with the steps in which it provided a teacher observation sheet which was assessed by the observer. The method used in this study is a qualitative descriptive method. The results of theassessment of learning get a percentage (85%) with very good qualifications.

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INTRODUCTION

Mathematics is a crucial subject for daily life by studying mathematics we have no difficulty in daily life for example counting money, buying and selling activities and other activities related to mathematics. In accordance with Aripin & Purwasih (2017) "Mathematics often interpreted as calculating or using formulas to solve problems". Learning that emphasizes memorizing formulas and calculating to solve them is what makes the system happen. According to Purwasih, Aripin, & Fitrianna (2018), one example of a factor in the low learning achievement of students is because mathematics is considered difficult by some students.

During the Covid-19 pandemic, online learning has been implemented almost all over the world. In online learning, schools become ineffective, face-to-face learning in class between teachers and students is not carried out, and all learning habits change (Wardani & Ayriza,2020). Teachers must readily accept changes in the learning system due to covid-19 which has resulted in online learning, teachers must also continue to provide material and guide students in carrying out learning. Online learning can be carried out using media in the form of applications that can help the learning process such as Whatsapp

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Group. Sirri & Lestari's research (2020) states that Whatsapp can be a supporting for online mathematics learning. In practice, the facts on the reality shows that online learning of mathematics subjects in junior high schools are implemented online was difficult.

Contextual approach is learning that helps teachers relate the material being taught to daily life. According to (Ulya & Irawati, 2016) proposing the basic concept of a contextual approach is a learning strategy that emphasizes the full involvement of students in order to be able to find the material being studied and relate it to real-life situations in order to encourage students to be able to apply it in their lives. Contextual approach (CTL) is one of the recommended learning approaches in the implementation of 2013 Curriculum learning. Therefore, contextual mathematics learning is one way to introduce students to the application of mathematical concepts in daily life.

The learning process must be memorable for students so that students more easily understand the material presented by the teacher. The role of teachers and parents is important so that students can still learn well, because the most worrying thing is that students feel bored when online learning is done by the teacher. The role of parents is very important to guide students at home in carrying out real learning activities with everyday life using a contextual approach. From the opinion above, we can see that the contextual approach is a learning system that connects the material with students' daily lives so that students can more easily understand the mathematical using contextual approach during the pandemic.

METHOD

This research uses a qualitative descriptive that aims to describe the results of online mathematics learning using a contextual approach during the pandemic. The subjects of the research were class 2nd grade in one of the junior high schools in West Bandung Regency, which amounts to 25 students. Data collection techniques are carried out by conducting learning using a contextual approach in accordance with the steps learning scenario in which it provides an observation sheet that is assessed by the teacher. The data was processed using Microsoft Excel 2010 to find out the results of teacher observations in applying a contextual approach to online learning using a contextual approach. The data processing technique uses the following formula: Field Experience Practice Guidebook 2 (2017).

$$percentage\ of\ observation\ results = \frac{total\ result}{total\ score} \times 100\%$$

According to (Mukarromah, 2014) the results of the percentage of observation sheets were converted into qualitative data with the following criteria:

Table 1. Observation Result Criteria

Percentage	Criteria
0-65	Less
66-75	Sufficient
76-85	Good
85-100	Very Good

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RESULTS AND DISCUSSION

This research aims to find out how to learn mathematics online using a contextual approach where the results of online mathematics learning are in accordance with the steps of the contextual approach with the following results:

First stage is Constructivism, at this stage students are given problems through student worksheet in each meeting, the problems given are in the form of problems commonly found in students' daily activities, which are adjusted to the learning material, namely statistical material. Given these problems, students are expected to play an active role in understanding the material. The teacher gives assignments in the form of worksheets that are sent through the Google Classroom or Whatsapp group. In this stage students are directed to observe the problems given by the teacher, then students answer and solve these problems in the column in the worksheet that has been provided. At this learning stage students are able to answerquestions in accordance with the directions given by the teacher.

Figure 1. Constructivism Activities

In Figure 1 above, at this stage students are given problems through LKS in each meeting, the problems given are in the form of problems commonly found in students' daily activities, which are adjusted to the learning material, namely learning statistics material. Given these problems, students are expected to play an active role in understanding statistical material. The teacher gives assignments in the form of worksheets that are sent via whatsapp. However, students collect more directly through whatsapp. In this stage students are directed to observe the problems given by the teacher, then students answer and solve these problems in the column in the worksheet that has been provided. At this learning stage, students are able to answer well in accordance with the directions given by the teacher.

Next, Learning Community Stage. In Learning Community activities, students are directed to work with their groups and solve problems that exist in the student worksheet. At this stage students have a very important role, students argue with each other in working on

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their worksheets. The teacher gives direction to students so that students help each other and also discuss with their group friends.

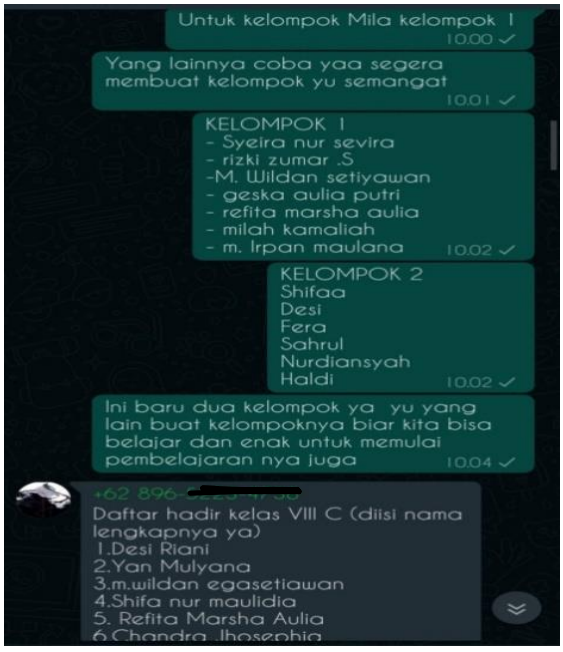

Figure 2. Teacher Gives Directions for Group Discussion

In Figure 2 above, in this stage students are guided to discuss in groups. Students are formed into several groups, where one group consists of 5-6 students and solve the problems given by discussion with their group friends. Students are able to discuss well with their group friends.

Next stage is Inquiry, in this stage students are given orders to dig up as much information as possible and can answer the problems given by the teacher. Students are directed to find and understand the concepts of statistical material being studied through discussion and looking for information from books or sources from the internet. Inquiry activities on the worksheets are shown in Figure 3.

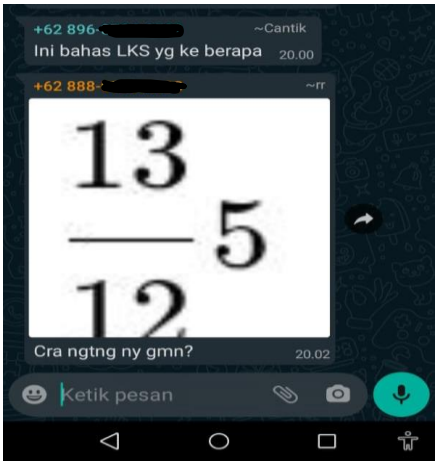

Figure 3. Inquiry Activities on student worksheets

Next stage is Questioning, in this activity students are given the opportunity to ask questions about the material they are studying, this activity is presented in the form of

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worksheets, in this activity students are given the opportunity to write down anything they want to ask about the statistical material they are studying is seen in figure 4.

Figure 4. Questioning Activities

Next stage is modeling, in this activity students can understand the material clearly, a model or example that can be imitated is needed. Students are given a model of the material they are learning, the modeling provided by the teacher is an activity that students often encounter in everyday life and is modeled into graphs, pictures, diagrams or mathematical models. This activity is presented in LKS activities. In this activity students are given a problem related to real life and associated with the material being studied, students and their group friends are asked to discuss and solve problems in the LKS. Modeling activities in the LKS can be seen in Figure 5.

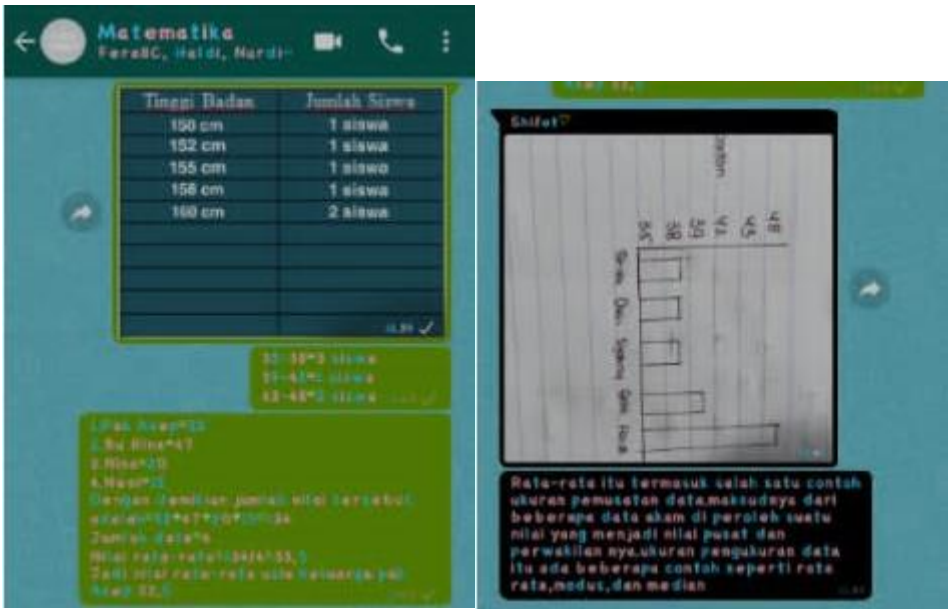

Figure 5. Modeling Activities

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Next stage is reflection. In this activity, students are directed to conclude the results of the learning that has been done, students are asked to think about what they have learned and make what the material has been learned. Reflection activities on worksheets can be seen in Figure 6.

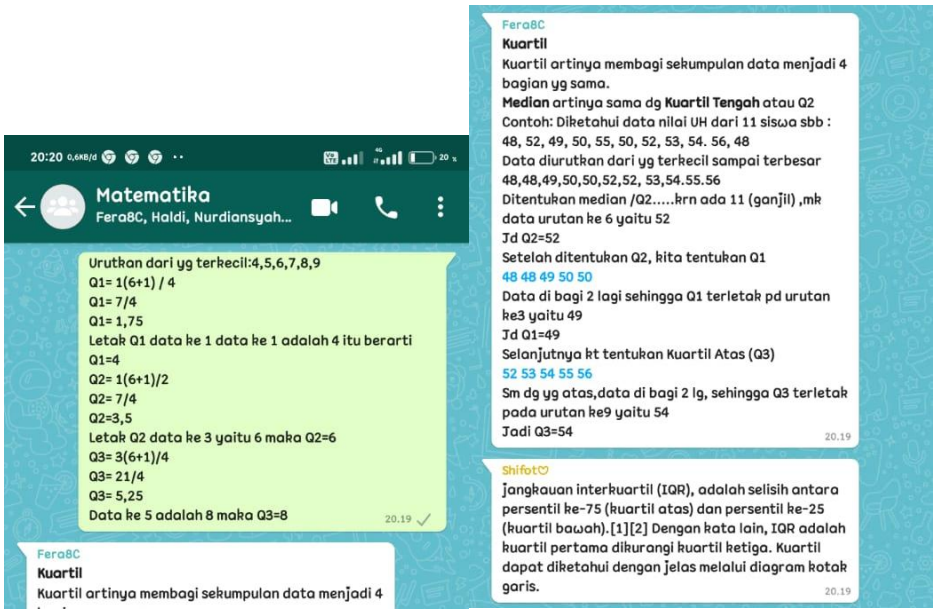

Figure 6. Students' conclusion

Authentic Assessments Stage. In the Authentic Assessment activity, the teacher gives assignments in the form of individual tasks that students must do independently to determine the students' abilities and knowledge that students have after learning.

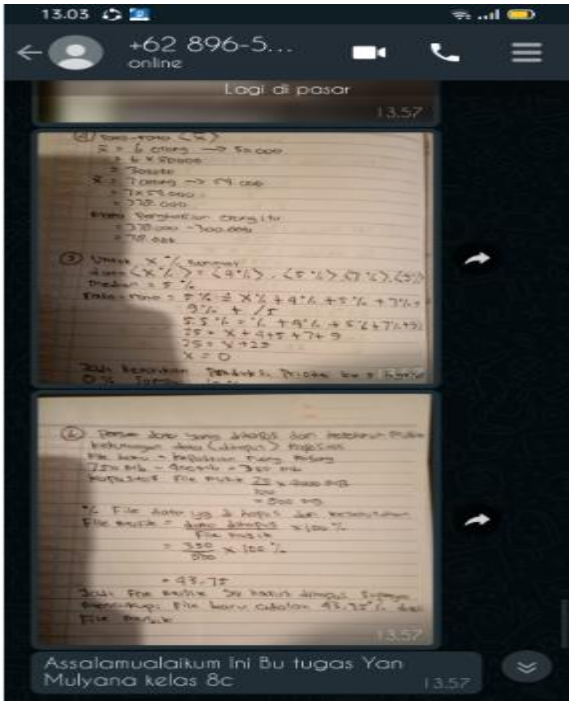

Figure 7. Authentic Assessment Activities

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In Figure 7 students send individual assignments that are done independently using the Whatsapp application. At this step, students' independence in solving questions is good. This is evidenced by the students no longer discussing with their group friends. The data above is reinforced by the results of teacher observations in online mathematics learning using a contestual approach as follows:

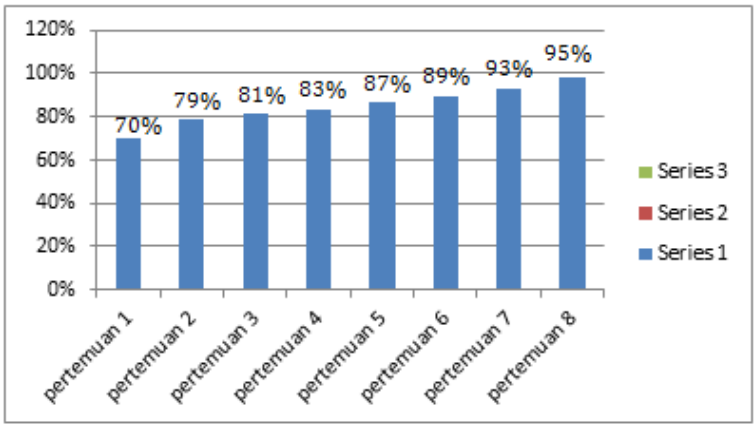

Figure 8. Percentage of Observation Sheet Results

The teacher's observation sheet is assessed by the observer. Based on the results of Diagram 1, it can be seen that the average percentage is 85% with very good criteria. This shows that the teacher is successful in carrying out the scenarios that have been made previously. According to the success of the teacher, among others, the teacher always tries to create a calm atmosphere in the classroom, so that learning takes place according to plan.

Based on the results of research that has been carried out by researchers, scenarios and implementation of learning using a contextual approach to statistical material in accordance with the previously designed worksheet through seven contextual stages, namely, constructivism, learning community, inquiry, questioning, modeling, reflection, authentic assessment. Therefore, online learning of mathematics using a contextual approach is appropriate for use in the learning process. This is in line with Sanjaya's opinion (Bernard, 2015) that the seven main components of contextual learning, namely constructivism, questioning, discovering, learning communities, modeling, reflection and actual assessment if involved will create a proper learning process.

In the constructivism Step, the teacher gives assignments in the form of worksheets that must be done in groups, and individual tasks that must be done independently, the teacher provides directions and explanations about the tasks given at the Constructivism stage contained in the worksheets. In these activities students are able to solve the problems given well. This is in line with Nizarwati, Hartono, & Aisyah (2013) that at the constructivism stage teachers need to provide opportunities for students to actively build their own knowledge.

In the learning community step, the teacher directs students to discuss with their groups and complete worksheet by means of online group discussions, but there are several groups of students who work in groups in one of their friends' houses. Students are asked to create a WhatsApp group with their group of friends. The teacher also directs students

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to appoint one student to be the group leader and the group leader is given the task of sending answers to the results of their group discussions. This is in accordance with Panjaitan (2016) that the learning community stage occurs when there is two-way communication from two or more groups involved in learning to communicate, for example students who know relate to those who do not know, those who learn fast are encouraged to help those who are slow learners and those who are slow learners. have a certain ability to pass it on to others.

In the inquiry step, organize the class by building supportive relationships and encouraging students to develop learning based on their abilities and strengths. Students create and apply behavioral guidelines to increase intrinsic motivation while discussion stimulates recognition and engagement. This is in line with the opinion of Prastitasari (2018) that at the Inquiry stage students gain knowledge not the result of remembering, but students find their own knowledge through observation, asking questions, making assumptions, collecting data, and inferring.

In the questioning step, students are given the opportunity to ask what they don't understand and ask the teacher about it. The teacher guides students who want to give statements and together look for answers by discussing together. The teacher gives directions for students to discuss together and ask what things are not understood via whatsapp. This is in line with the opinion of Nasriadi (2015) that the questioning stage is an activity that is seen as a teacher activity to guide, encourage and assess students' thinking skills.

At the modeling step, students can answer and can discuss well with their groups, where students are able to model diagrams related to everyday life. This is in line with the findings of Sustiningsih (2021) which states that when students are able to model, the contextual stages are good. The Reflection step has been carried out has resulted in students being able to make summaries so that they have notes for students to remember and remember. This agrees with (Melasevix et al., 2021) which states that students are able to recall their knowledge by making small notes or summaries. The last step in the contextual approach is Authentic Assessment where at this stage students are able to complete their own tasks without the help of other people or groups. Student independence greatly affects student learning outcomes (Kamilah, Mugara, &Ruqoyyah, 2021.

CONCLUSION

Based on the results of the research above, it can be concluded that the scenario and implementation of online learning using a WhatsApp-assisted contextual approach is in accordance with the stages of the contextual approach. It is clear that online learning using a WhatsApp assisted contextual approach is effective in learning mathematics. The results of teacher observations related to the learning carried out are in the very good category.

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