

## Mathematics Learning Activities Of Students Of SMP Negeri 5 Tondano In The Transitional/Post Pandemi Covid-19 Period

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### Abstract

This study aims to describe mathematics learning activities during the co-19 pandemic and after the co-19 pandemic at SMP N 5 Tondano. Approximately 2 years of the brave learning process was carried out, which might make students experience problems in terms of ethics or attitude because while learning, the brave teacher also lacks in supervising students' attitudes and behaviour, so with this change in learning, the difference is very visible. This research is qualitative descriptive research. Data was collected using observation techniques, interviews, and documentation. The results showed that students' mathematics learning activities during the transition/post-covid-19 pandemic were going well at school following the schedule of learning activities the school had prepared. However, students' mathematics lessons are less effective in the process. This is evidenced by observational data, which shows: 1) Teachers are less creative using various learning models, 2) Students do not respond to learning, 3) Students lack interest in mathematics, 4) Students are not actively involved in learning, and 5) Courageous learning that takes so long results in students being very dependent on the internet network. This resulted in the teacher experiencing several obstacles in the students' mathematics learning activities attractively. It can be interpreted that students' mathematics learning activities at SMP N 5 Tondano during the transition/post-covid-19 pandemic were less effective due to courageous learning activities.

**Keywords:** Learning activities, Mathematics, Pandemi Covid-19

### Abstrak

Penelitian ini bertujuan untuk mendeskripsikan kegiatan belajar matematika di masa pandemi covid-19 dan setelah pandemi covid-19 di SMP N 5 Tondano. Kurang lebih 2 tahun proses pembelajaran daring dilakukan yang mungkin membuat peserta didik mengalami permasalahan dalam sisi etika atau sikap karena pada saat pembelajaran daring guru juga kurang dalam mengawasi sikap dan perilaku siswa sehingga dengan adanya perubahan pembelajaran ini sangat terlihat perbedaan. Penelitian ini adalah penelitian deskriptif kualitatif. Data yang dikumpulkan menggunakan teknik observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa kegiatan belajar matematika siswa pada masa peralihan/ pasca pandemi covid-19 telah berjalan dengan baik di sekolah sesuai dengan jadwal kegiatan belajar yang telah disusun sekolah. Namun pada prosesnya, kegiatan belajar matematika siswa terbilang kurang efektif. Hal ini dibuktikan dengan data hasil observasi yang menunjukkan: 1) Guru kurang kreatif menggunakan model pembelajaran yang bervariasi, 2) Siswa kurang merespon pembelajaran, 3) Siswa kurang memiliki minat pada mata pelajaran matematika, 4) Siswa kurang dilibatkan secara aktif dalam pembelajaran, dan 5) Pembelajaran daring yang begitu lama mengakibatkan siswa sangat bergantung pada jaringan internet. Hal ini mengakibatkan guru maupun siswa mengalami beberapa hambatan dalam kegiatan belajar matematika secara luring. Dapat disimpulkan bahwa kegiatan belajar matematika siswa di SMP N 5 Tondano pada masa peralihan/ pasca pandemi covid-19 kurang efektif akibat kegiatan belajar daring

**Kata Kunci:** Kegiatan Belajar, Matematika, Pandemi Covid-19.

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## INTRODUCTION

The Indonesian state is still facing the Covid-19 pandemic, which has affected and changed various aspects of human life. One aspect of this field that is experiencing change and greatly impacting human life is the field of education. All levels of education, from elementary to tertiary

education, are asked to prevent the spread of Covid-19 by limiting and stopping all activities that cause crowds or social contact (Kamza et al., 2021). Education is one of the main solutions to improving human resources to have quality (Mangelep, 2017; Primasari & Zulela, 2019); with the current state of the country, elements of education must be able to take the right steps because there are changes that have experienced a surge in the system of implementing learning activities. Teachers, students, and parents must learn using supporting media that previously had yet to be mastered, especially parents with various educational backgrounds (Mangelep et al., 2013; Daheri et al., 2020). Thus, causing unpreparedness for the shock of changes that humans feel about dealing with changes that are not planned. However, all these changes must be accepted to run a learning implementation system that is experiencing a transition from face-to-face to online (online) so that there is no transmission of the Covid-19 virus. This aims to fulfil the right of students to obtain education in any way and situation (Farell et al., 2021). Technology in the field of science in efforts to achieve educational goals is evidence that there have been significant changes in the field of education today (Mangelep, 2015; Karlina & Astuti, 2021).

The Ministry of Education and Culture's Circular Letter in 2020, which has instructed the implementation of online learning at home to be a discussion of the pros and cons in society. This is due to the unpreparedness of students, educators and parents who have an important role in accompanying children to learn online (online) at home. As Alfiyah et al. (2021) state, the environment in the family greatly influences children's education to study at home. However, the biggest obstacle is the limited education of parents who need help to help their children. Parents will face many additional tasks to accompany children to study, like teachers at school (Mangelep, 2020; Indra Kartika Sari, 2021). Often some parents need more time to be ready; however, over time, of their unpreparedness in implementing online (online) learning with technology, now students, educators, and parents as companions for children have been able to adapt even though not optimally. Where online learning is found, passive students and teachers in teaching only deliver material and give assignments to students. The changes in the learning system during the Covid-19 pandemic with the online system have been running for more than 1 year. In its application, the online learning system uses technology to link educators' and students' interactions (Herzamzam, 2021; Domu et al., 2023). As time goes by, educators, students, and parents can adapt to the online (online) learning system even though it is not optimal, and efforts to pressure and voice for the implementation of face-to-face learning are not as enthusiastic as in the mid-early transitional period of learning implementation online, namely in early and mid-2020. Online learning in early 2020, carried out remotely which can be done at the same time which can be done with alternative media in the form of google classroom, whatsapp, telegram, zoom meeting, google meet, teacher room and various applications that support distance learning (Dewi & Sadjiarto, 2021; Domu et al., 2023).

In 2022 education in Indonesia and learning activities have gradually improved greatly. Some schools have started reopening and learning activities can be held offline (face-to-face) in class. In the

world of education, especially at the school level, from kindergarten to the tertiary level, there is a learning transition from online to offline learning. In the learning transition that occurs, many educators and students must readjust to activities that have begun to be replaced or even forgotten in the past two years (Mangelep, 2017). Since the transition of learning from an educator's perspective certainly has its challenges. The process of changing learning from online to offline currently lies in changes in students' attitudes and behaviour which are decreasing towards respect and obedience to the rules. For about 2 years, the online learning process has been carried out, which might make students less polite because, during online learning, the teacher needs to improve in monitoring the attitudes and behaviour of students so. With this change in learning, the difference in attitude is very visible. Starting from politeness towards teachers, collecting assignments that students underestimate and how they get along with their friends. Therefore, teachers also must be extra in educating students to help students behave because more than a teacher is needed to teach subjects but also must educate the attitudes and behaviour of students.

The impact students feel with the change in online and offline learning on academic achievement is that they feel their achievement has increased. Students are more diligent in completing the assignments given; unlike online, students are more likely to underestimate assignments because of predetermined deadlines. The learning process will be more effective offline than online for several reasons. For instance, offline makes it easier for students to understand the lessons; you can ask the teacher directly if you do not need help. In addition, with online learning to understand the material is still very difficult. For students who need to learn more about technology, online learning is just a waste of quota, and of course, it will cost a lot to support learning. One factor that encourages students to be enthusiastic about offline learning is meeting peers who can strengthen family ties.

## **METHOD**

This research is descriptive research with a qualitative approach. This research was carried out at SMP Negeri 5 Tondano in the odd semester of the 2022/2023 academic year. Data collection techniques used in this study were: 1) Observation, carried out by following the time and schedule of mathematics subjects; 2) Interviews, to further explore how the learning process of students both online and offline, especially in mathematics, and also to find out what obstacles are faced during the online and offline learning process; 3) Documentation, in the form of snapshots of interview results of students who will be interviewed, photo documentation of interviews and research implementation. In this study, the data analysis technique used was descriptive qualitative with the following stages: 1) Data reduction, including: selecting and simplifying data. This activity is carried out to avoid the accumulation of the same data or information from students; 2) Presentation of data includes: The data presented is in the form of questionnaire/questionnaire scores and student learning outcomes at the time the research was carried out with the results of the interviews; 3) Drawing conclusions:

carried out during the analysis activities in progress so that a conclusion is obtained.

## **RESULT AND DISCUSSION**

Based on the results of the interviews that have been carried out, produce the following data.

### **1. Mathematics Learning Activities Students of SMP Negeri 5 Tondano During Pandemi Covid-19**

Student Learning Activities of SMP N 5 Tondano in Pandemi Covid-19 use online learning (in the network), where learning activities are carried out from home. Mathematics Learning Activities Students of SMP N 5 Tondano during online learning in the Pandemi Covid-19 using Google Meet or Zoom, where the teacher sends learning videos from existing platforms, then the assignments given by teachers through online platforms. The platform most often used by teachers in learning mathematics, namely WhatsApp, by utilizing the Voice Note and Pictures features on WhatsApp, where students can send assignments and ask questions or provide answers through this platform. In addition, independent books are also used as a learning resource that contains a summary of the material. Mandiri books are required for students because if the teacher explains teaching material, students must summarize or record the important things the teacher conveys. The summary made by students then made the teacher a source of questions given, which will then be answered during mathematics learning or as a home task that will be collected and discussed at the next meeting. The learning method used by the teacher in mathematics learning activities during Pandemi Covid-19 is the method of lecture, discussion and question and answer. The method is recognized by the teacher always applied during online learning because the teacher wants the centre of student attention only to the teacher because of the limitations to controlling students directly in learning activities. Other information obtained by researchers from the teacher is that the teacher found students who only pretended to listen to the teacher's explanation, where when asked, they could not answer because the student was playing online games when the teacher gave material. For this reason, in the core activities of the learning process, the teacher holds discussions and questions and answers that have been delivered by the teacher in preliminary activities so that students focus on learning. For more details, the implementation of mathematics learning activities in online learning based on information obtained from mathematics subject teachers can be described as follows:

#### **a. Preliminary activities**

In this activity, the teacher starts learning by greeting students through the WhatsApp group, and students reply to greetings from the teacher as a form of student attendance. Then the teacher asks about the condition of students physically and psychologically and asks one of the students to lead the prayer to start learning.

#### **b. Core Activities**

##### **Phase 1: Delivering Purpose and Preparing Students**

In this phase, the teacher gives the material that the teacher has made in the form of

documents prepared by the teacher and then asks students to read them first.

#### Phase 2: Demonstrate knowledge or ability

At this stage, the teacher explains the mathematics learning materials in the documents made by the teacher and shares them with students through the Voice Note feature on WhatsApp. Students are told to listen to voice notes that contain explanations from the teacher while listening to the material in the document. In addition to using Voice Note, the teacher uses the image feature on WhatsApp to provide additional material not presented in the document. This is done by the teacher to increase students' knowledge and strengthen the understanding of students' mathematical concepts because, according to the teacher learning mathematics learning is more easily understood the concept with the media image, and then the teacher explains examples of questions and discussions that exist in the document. In this phase, the teacher will do questions and answers and discussions with students about the material delivered to know the extent of students' understanding and what difficulties experienced by students in learning activities. These results follow previous research conducted by Sudirman (2021): Mathematics learning activities online use the WhatsApp application, the teacher sends material and questions through the WhatsApp group, students download and work on questions, then send their answers to WhatsApp teachers.

#### Phase 3: Guide the training

In this phase, the teacher allows students to answer the questions provided in the final section document. Then the teacher also guides students who experience learning difficulties when working on problems.

#### Phase 5: Provide opportunities for further training and implementation

In this phase, the teacher gives assignments to students in the form of structured exercises. The teacher's exercises include multiple-choice questions or essays (description). Students will work on problems by including the complete process that students will make in the assignment book. The results of student work are sent to the teacher via a private chat on Whatsapp. As for the collection of student work, results are given a time limit, which is no later than 1 week after the mathematics learning activity ends. After students submit assignments, the teacher gives feedback by announcing the value of the assignments made by students and the errors contained in the problem-solving steps.

#### c. Closing Activities

At this stage, the teacher closes online mathematics learning by setting aside time to appreciate students who have participated in learning activities well. Furthermore, the teacher asked one of the students to pray and closed the learning activity by greeting them.

Based on the description above, the teacher admits that learning mathematics only sometimes runs smoothly. Both teachers and students have their obstacles in learning activities.

### 1.1 Teacher Obstacles in Online Mathematics Learning Activities

From the point of view of mathematics subject teachers, the first obstacle experienced by teachers in online mathematics learning activities is the need for more learning hours. This makes the teacher their challenges to designing learning and materials so that they can be summarized to achieve learning objectives. Second, the preparations made for learning activities are very time-consuming, where the teacher must design teaching materials that can make students understand the material being taught, considering that learning mathematics is the process of providing learning experiences to students through a series of planned activities so that students gain an understanding of mathematical concepts. Studied. For this reason, the teacher must look for matters relating to the material in various literature, and more is needed if it is made in just one day because the process of selecting, compiling, and presenting it must be understandable to students. Third, dealing with students who could be more active in learning activities. Teachers can see students' activeness from the info feature on Whatsapp because students are listening and those who are not. For students who are not active in learning, the teacher will immediately give private messages or call students directly. This is a challenge for the teacher to make students active in learning only through the network, or it can be said that the teacher cannot fully control students because of distance limitations.

### 1.2 Barriers to Students in Online Mathematics Learning Activities

From students' point of view, the first obstacle experienced in online mathematics learning activities is that students do not fully participate in online learning due to inadequate quota constraints and an unstable network, so sometimes students cannot open documents sent by the teacher. To overcome this, the teacher has prepared images sent to the Whatsapp group because it only requires a smaller quota to download them, but sometimes students have difficulty reading them. Students with poor smartphone devices will receive images that could be clearer. Second, the methods teachers use in teacher-centred mathematics learning activities, namely lectures, discussions and questions and answers, sometimes make students unable to participate in learning activities properly because an unstable network makes students unable to hear the teacher's explanation and what the teacher is asking.

Regardless of the obstacles experienced by teachers and students of SMP N 5 Tondano in online learning activities, the results of students' mathematics learning are good. The results of interviews with teachers and students during research activities regarding students' mathematics learning activities during the Covid-19 pandemic have succeeded in achieving learning goals. Besides that, the teacher also claimed to have gained more knowledge in using current technology, which was previously unfamiliar with the use of existing technology. Namely smartphones.

## 2. Mathematics Learning Activities for Students of SMP Negeri 5 Tondano After the Covid-19 Pandemic

After the Covid-19 pandemic, learning activities at SMP N 5 Tondano have resumed taking offline or face-to-face classroom learning activities after the school had previously implemented online learning. This also happened in the mathematics learning activities at SMP N 5 Tondano. Based on the results of the first observation of research activities, it was found that the implementation of students' mathematics learning activities starting from grades VII, VIII, and IX was carried out offline based on the decision of the Minister of Education, which required schools to carry out learning activities in school buildings currently. Meanwhile, the mathematics learning activities of SMP N 5 Tondano students are running according to the school's schedule. Researchers observed students' mathematics learning activities after the Covid-19 pandemic with limited face-to-face learning opportunities, namely students entering school every day with a total student capacity of 100% and a duration of 3/45 minutes for each mathematics lesson schedule in one class. To shorten research time as well as advice and permission from the school principal, the researcher only made observations (observations) in classes VII A and VII B because the mathematics teacher is the same person, so the research presentation can be more focused and one-way. Observation of students' mathematics learning activities is carried out 2 times a week, namely only on Thursdays following the schedule of class VII students' mathematics lessons, with a total of 8 observations carried out. Following the data obtained for students' mathematics learning activities, namely:

a. Preliminary activities

Based on the results of observations, there are the same preliminary activities in classes VII A and VII B. Before learning begins, the teacher greets and is answered by the students then the teacher asks one of the students to come forward in front of the class to lead a prayer in starting learning activities. Students in class VII A swiftly stepped forward to lead the prayer, in contrast to students in class VII B, who were shy about coming forward, so the teacher had to appoint one of the students in this class to lead the prayer. Differences in attitudes shown by students in classes VII A and VII B have been seen since the beginning of the implementation of mathematics learning activities or since the preliminary activities. Based on student statements, it is known that these students have a readiness to accept learning. In addition, because online learning has been carried out for so long by students, it makes students enthusiastic about participating in face-to-face learning. It differs from the statement by a class VII B student with the initials 'GS', which is understandable considering that the learning was a transitional period after the Covid-19 pandemic, which lasted so long and made students lack self-confidence. In addition, class VII students who have just completed their education at the junior high level and were previously elementary school students need a longer adjustment or adaptation with their friends from various elementary schools. However, in observations 3 and 4, student changes have been seen where students have developed more courage. This can be seen from the researcher's observations where during the preliminary activities, students in both classes enthusiastically led the prayer to start learning activities, the shyness had also faded because they were used to

adapting well with their friends, and this continued until the researcher's final observation. Where students enthusiastically come to the front of the class without having to be appointed by the teacher. In addition, the greeting by the teacher with enthusiasm was answered by the students.

b. Core activities

In this section, the learning model used by the teacher is the direct instruction learning model, where according to the subject teacher, this learning model is teacher centered. The teacher uses the learning model during observation activities in both classes. The reason for the teacher using this learning model for eight meetings is because the teacher thinks this learning model is suitable for existing material. During offline learning, the teacher uses this learning model. After all, it makes it easier for the teacher to guide students because it is only teacher centered. The teacher also added that grade VII students transitioning from elementary school (SD) to junior high school (SMP) are still very childish and need special attention from the teacher because their attention is still very easily distracted. In addition, online learning that has taken so long makes it difficult for them to manage because they are used to being alone at home, so this learning model can make it easier for teachers to control them. The material taught by the teacher is fractions. Both classes receive the same material on the same day, but differ in study time, namely class VII A at 07:30-09:45 and class VII B at 11:00-13:15. The results of observations in this section can be described as follows:

Phase 1: Delivering Objectives and Preparing Students

In this phase, the teacher consistently conveys the learning objectives during the observation activities in progress, where the teacher communicates the learning objectives to students through a summary of the lesson plan by writing on the blackboard showing the stages and contents of the learning activities to be carried out as well as the time allocation provided for each stage thus students can see and know the overall flow of their mathematics learning activities step by step. Then the teacher always asks about the condition of students physically and psychologically, such as asking about the health and mentality of students in participating in mathematics learning activities and motivating students to be passionate about learning. The teacher also noticed this motivation during the four meetings in each class, where the teacher drew students' attention to the subject matter and reminded students about the results of learning mathematics students had when they were still in elementary school. Through the answers given by the students regarding their math scores, the teacher then tries to ask questions about fractions by utilizing activities that are usually carried out by students every day, such as shopping at food stalls or school canteens, using money that can be broken. The teacher does this to determine students' readiness to participate in mathematics learning activities on fraction material. Furthermore, it was found that the teacher successfully obtained students' attention.

Phase 2: Demonstrating Knowledge and Skills

In this phase, the teacher demonstrates student knowledge as in phase 1. Namely, the teacher

invites one of the students to demonstrate a shopping activity with money. The teacher demonstrates events commonly experienced by students, namely shopping/snacking activities with a medium of exchange (money), as a first step in introducing fractional material to students. The teacher then uses student responses through teacher demonstrations to teach students about the numerator and denominator, which the teacher writes on the blackboard. The teacher's demonstration continues until the fourth observation by adjusting the main points to the fractional material. The teacher's method is the same in both classes. However, in participating in mathematics learning activities in this phase, students in class VII A are more active than students in class VII B. This is because the mathematics subject in class VII B starts in the afternoon, which puts students in a less fit physical condition. Apart from that, it is also known that the subject for class VII B students before mathematics was Penjaskes. Many students' strengths were drained, so many students were exhausted from participating in teaching and learning activities.

### Phase 3: Guiding Training

In this phase, the teacher guides students by explaining fractional material well and following the time allocation made by the teacher. When explaining the material, the teacher occasionally gives questions to students spontaneously. The teacher asked students spontaneous questions during observation, such as, " How is a decimal fraction? Then students answer the fraction written using a comma. In guiding students, the teacher also gives questions that the teacher has prepared through worksheets prepared by the teacher and then distributes them to students. In this section the first and second meetings, students work on the questions independently, and in the third and fourth meetings, students work on the questions in groups. Then the questions at the first and second meetings were prepared by the teacher in the form of LKS sheets, and for the third and fourth meetings, the teacher took them in printed books.

### Phase 4: Checking Understanding and Providing Feedback

In this phase, the teacher checks the assignments done by students. For the first and second meetings, the teacher checked students' independence in completing mathematics learning assignments after the Covid-19 pandemic individually to determine what obstacles students experienced in participating in mathematics learning activities after the pandemic. The results of observations of students in the observation section in this phase of working on questions based on assessments made by the teacher with aspects adjusted to the teacher's lesson plan can be presented as follows:

Table 1. Summary of Observations on Student Independence in Solving Problems

No	Aspect	Description
1	Understand the problem independently / group	Observations 1 and 2, students in both classes understand the questions given by the teacher independently. Observations 3 and 4, all students understand the questions well in groups

No	Aspect	Description
2	Prepare solutions and solve problems independently / in groups	Observation 1, most students did not prepare solutions independently and could not solve the questions themselves. Observation 2, it was found that only five students had difficulty solving the questions themselves. Observation 3, all students prepare solutions independently. But in solving the problem, it is done in groups Observation 4, Students depend on each other in preparing and solving questions on group partners
3	Follow up on individual/group questions	Observations 1 and 2, students are able to improve their own answers after being given feedback by the teacher. Observations 3 and 4, Students can independently correct answer errors after the teacher provides feedback.

From Table 1 above, for aspects 1 of observations 1 and 2, students can independently understand the questions the teacher gave. In contrast, when the teacher distributes worksheets made by students, they can understand the meaning of the questions. This is evidenced by the calm classroom atmosphere when learning mathematics takes place. In this section, according to one of the students with the initials 'FM', it was concluded that students understood the teacher's questions because they were the same as the examples given. The teacher also added that the questions made the teacher had been prepared as well as possible so that students could understand what was being asked. The teacher also said that the teacher demonstrated the selected questions in phase 2 so that students were clear when given a problem. Then in observations 3 and 4, students were better at understanding the questions given, whereas their friends who already understood the meaning of the questions explained to their group mates.

Aspect 2, for observation 1, it was found that many students needed to prepare for problem-solving independently. The preparation for completion in question is that students do not independently prepare a summary of the material or printed books needed to solve the problems given by the teacher; where many of them borrow notes from their friends or work with their friends who have a clear summary of the material. Then even though students have understood the questions, they still need clarification about solving them. One of the students with the initials 'BR' admitted that he often needed to remember to solve decimal fraction problems, where the student often misplaced commas in decimal fractions consisting of more than two numbers. Another problem faced by one of the students with the initials 'GS' concluded that students still needed to understand the percent questions in word problems. The results of the student interviews above follow previous research conducted by Alfi Nur Santi (2015) on "Problematics of Learning Mathematics for Class V SD Islam Hidayatullah Semarang Academic Year 2015/2016". Problems in learning mathematics are students who have difficulty calculating; understanding of the language of mathematics still needs to be improved (difficulty in word

problems).

From the problems experienced by students in mathematics learning activities in this phase, it is known that it was not the teacher's fault but that the students did not properly pay attention to the teacher's explanation. Their books which should contain a summary of the material explained by the teacher, looked empty. Some were even filled with a picture. In observation 3, students independently prepare content summaries and printed books. During observations 1 and 2, the teacher reminded students to pay attention to the teacher's explanation and make a summary per person because it will be examined. The teacher's words made students afraid of punishment if they did not have their summary. Then in solving the problems, it was found that students could solve problems in groups well, or the cooperation of students in groups was very good.

Observation 4, because it has been divided into groups, some students depend on each other in preparing material and solving problems. Even though students already have their notes and books, some students only copy the work of their friends who have completed the questions first.

Aspect 3, from the researcher's observations for this aspect, all students can correct their work independently after being given feedback by the teacher. Where students do not ask each other their friends because they already understand what mistakes are in the description of solving the fractional material they are studying. The teacher's reason for dividing students into groups for meetings 3 and 4 is to address the problems experienced by students in learning mathematics in this phase.

#### Phase 5: Providing Opportunities for Further Training And Application

In this phase, the teacher again allowed asking about what they did not understand from the teacher's explanation, and the students replied that they had understood it. Then the teacher allows students to return to discussing the questions at each meeting and draw conclusions from the learning activities. In this phase, the teacher also praises students who have followed the learning activities well. Then the teacher gives homework to students to collect at the next meeting. The teacher always links the homework given to students with the subject of fractions which will be discussed at the following meeting: this is done by the teacher so that students can find solutions to problems independently by utilizing internet technology for learning, not playing when at home.

#### c. Closing Activities

In this section, the teacher sets aside time to return to giving appreciation to students. Occasionally the teacher praises some students who are considered the best at participating in mathematics learning activities. However, during the observation, the teacher only did this occasionally because it prevented unhealthy competition among students. On the other hand, appreciation motivates students to focus more on their next learning activity. Then the teacher asked one of the students to lead a prayer in ending the learning activity and said hello. The syntax of the mathematics learning activities above is the same as that used by teachers in online

learning; this follows the sequence of the phases of learning activities. However, the obstacles experienced by teachers and students in online learning activities are different from offline ones. The obstacles experienced by teachers and students in learning mathematics offline during the Covid-19 transition period, namely:

### 2.1 Teacher Obstacles in Offline Mathematics Learning Activities

Barriers experienced by teachers in learning mathematics offline, especially during the transition to the Covid-19 pandemic, namely:

#### a. Lack of student learning interest in mathematics

The first obstacle encountered by teachers in mathematics learning activities after the Covid-19 pandemic was the Lack of interest in students' learning in mathematics. This was proven during the initial observation; most students needed to focus more on the teacher when explaining the material. Then when the teacher asked about fractional material at the beginning of the observation, none of the students could answer. The teacher's questions at the beginning of the observation were very simple, such as what the quantifier and denominator was, and the students needed help answering. In addition, it is known that the Lack of student interest in mathematics is due to the use of the teacher's learning model, which is less varied during mathematics learning activities.

In contrast, the teacher only uses the direct instruction learning model during online and offline learning. The way of teaching teachers who use this learning model results in students' disinterest in the subject because students need to participate in mathematics learning activities. This was also proven during observation, where students' mathematics learning activities only listening to the teacher's explanation, taking notes, answering questions, and working on questions. The teacher made no other learning media to make it easier for students to understand the material, whereas the teacher only explained it, only in printed books. However, in the initial activities, the teacher tried to demonstrate the material by utilizing activities that students usually do; besides that, the teacher explained the material well, with the right time allocation, and followed the lesson plan. However, more is needed to make students fully interested and actively participate in mathematics learning activities.

Based on the description above, the teacher must repeatedly explain the material. Thus, to minimize existing obstacles, namely increasing student learning interest in mathematics, teachers need to apply new learning models by adjusting existing material and creating other learning media or games that can foster interest in students for mathematics. These results are consistent with previous research conducted by Alfi Nur Santi (2015) on "Problematics of Learning Mathematics in Class V Hidayatullah Islamic Elementary School Semarang in the Academic Year 2015/2016" The results of this study indicate that the problem that occurred is that teachers rarely use learning tools/media and learning methods that are less varied.

b. Students are lazy in memorizing formulas

The second obstacle for teachers is students' learning attitude in offline learning after the Covid-19 pandemic. Namely, students need to be more active in memorizing formulas. Researchers found this when making observations, where students preferred to record formulas rather than memorize them. Teachers admit that teachers need more energy in dealing with students' learning attitudes offline when compared to online. This teacher's attitude is because it is very difficult for students to memorize formulas; even if they are memorized for only a few hours, students need to remember them. This requires more energy and patience in giving math lessons to students.

c. The difference is the learning system

The third obstacle is a different learning system online. It is known that online mathematics learning activities that last quite a long time make teachers sometimes stiff in providing offline learning after the Covid-19 pandemic. This shows the teacher's attitude, who often repeats the mathematics learning activities in part 2 of phase 1, where during the second and fourth observations, the teacher conveys the learning objectives more than twice. Nevertheless, for other phases, the teacher is in control well. So, apart from students, the teacher must also prepare mentally to carry out mathematics teaching and learning activities in the classroom properly, considering that the teacher is the key to the success of learning mathematics at school.

## 2.2 Barriers to Students in Offline Mathematics Learning Activities

According to students' views, the obstacles experienced by students in learning mathematics offline after the Covid-19 pandemic, namely:

a. Lack of confidence in own abilities

After the Covid-19 pandemic, it impacted student self-confidence; students lacked confidence in their abilities because they were used to looking for sources of answers on the internet during online learning. It is known that when students give questions or questions in online learning, they deftly immediately look for answers on the internet and consider the answers to be accurate. As a result, when participating in offline mathematics learning activities, students need more confidence in their answers. The habit of relying on students to look for answers online during online learning also makes students spoiled and not lazy to think hard. Even though the students had answered the questions well, some needed clarification about the answers and replaced their answers by copying the work of their friends. So that when correcting student answers, the teacher found several students with the same answers. In addition, especially in class VII B students, as many as 12 students are very dependent on other people because they are not confident in their abilities. Then during the mathematics learning activities, it was discovered that students were prohibited from using cellphones while learning activities in class took place. Moreover, this is a different obstacle for students who previously participated in mathematics

learning activities; students were very dependent on cell phones and internet networks.

b. More study hours

The difference in study hours experienced by students is the second obstacle for students in participating in offline mathematics learning activities after the Covid-19 pandemic. Offline mathematics learning hours are 45 minutes more than online, which is 135 minutes. This results in students quickly getting bored in learning because they are used to class hours which only last 90 minutes. Increased study hours are a different obstacle for students, as evidenced by the attitude of students when participating in mathematics learning activities in class that do not respond to learning in the 100th minute, where students only listen to the teacher's explanation without asking what they do not understand. to 125, or the last 10 minutes, students are very excited to end the lesson.

3. Differences in Mathematics Learning Activities for Students of SMP N 5 Tondano During the Covid-19 Pandemic Period (online) and After the Covid-19 Pandemic Period (offline)

The differences seen in the presentation of the results of the implementation of research activities can be seen in the following figure:

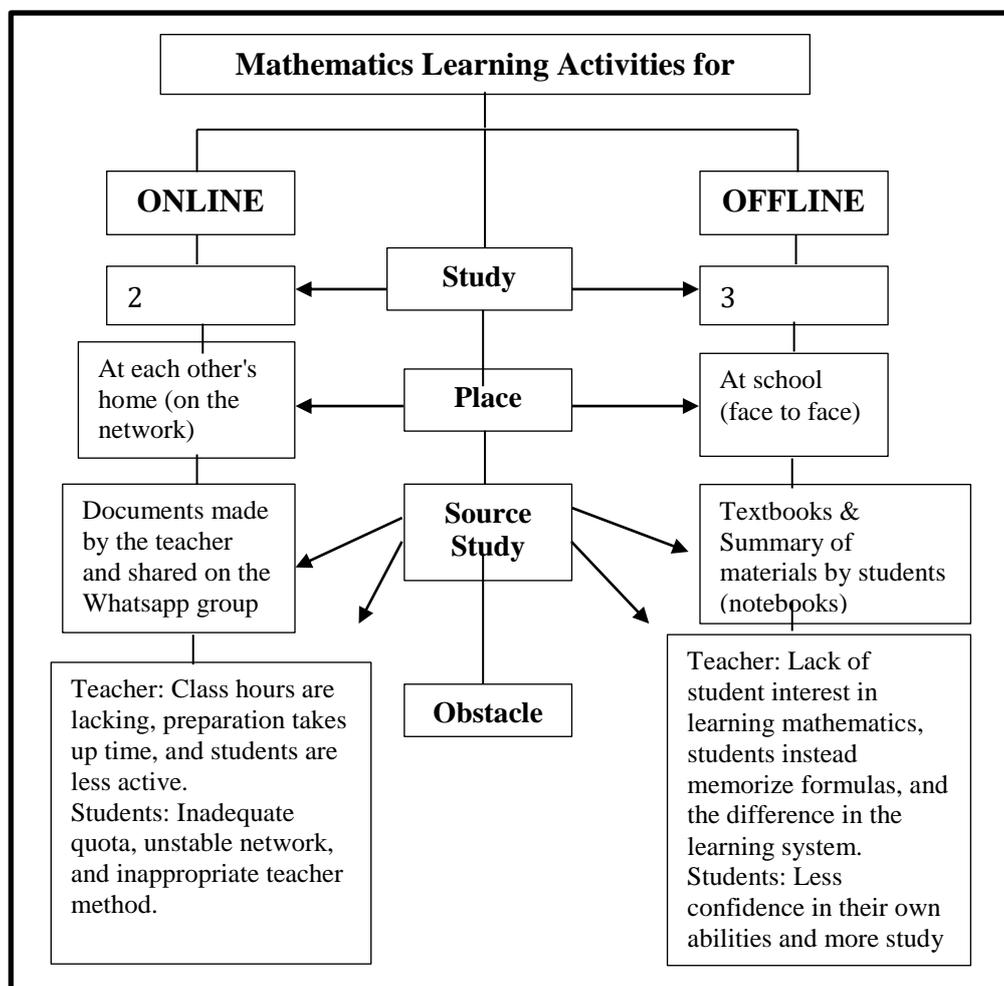


Figure 1. Differences between Online and Offline Learning Activities

## **CONCLUSION**

Based on the research presented in the previous chapter, the researchers concluded that the mathematics learning activities of Tondano 5 Public Middle School students during the transition/post-covid-19 pandemic were going well at school. Students take part in learning well, and the teacher does his job well. However, the student's responses could have looked better in learning mathematics because teacher learning models were less varied, resulting in a less effective process of learning mathematics after the Covid-19 pandemic.

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