

The Effectiveness Of Online Learning In Mathematics Class 5 In Elementary School

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Abstract

This study aims to identify and describe planning, implementation, evaluation, inhibiting factors and inhibiting factors as well as efforts to resolve obstacles to online learning of class V mathematics at SDN Gugus 4, Bagor District, Nganjuk Regency. This research is a type of qualitative descriptive research using data collection techniques through questionnaires, observation sheets, interviews, and documentation. The research respondents were teachers, parents and students at SDN Gugus 4, Bagor District, Nganjuk Regency, with a total of 142 students, 6 teachers and 5 parents. The results of the study showed that (1) the teacher had carried out the planning of online learning for the fifth grade mathematics subject as outlined in the form of lesson plans, (2) the implementation of online learning for the fifth grade mathematics subject could be carried out properly where students stated that the teacher had managed online learning well, the responses and activities of students are happy, they can prepare themselves, they are actively involved, where the learning outcomes obtained are good, (3) The evaluation of online learning for the fifth grade mathematics subject has been carried out by the teacher who can explain that the learning carried out runs effectively with increase in learning outcomes of class V mathematics subject, (4) Supporting factors for online learning of class V mathematics subject, namely the existence of an internet network, the ability of human resources to carry out management related to online learning, (5) Factors inhibiting online learning of class V mathematics subject complained of by teachers, parents of students and students are unstable networks, and (6) Efforts that can be made by the teacher are conducting learning using multimedia such as video, audio, CD-ROM based and collaborating with parents of students related to supervising students when conducting online learning at home.

Keywords: online learning, mathematics

Abstrak

Penelitian ini bertujuan untuk mengetahui dan mendeskripsikan perencanaan, pelaksanaan, evaluasi, faktor penghambat dan faktor penghambat serta upaya penyelesaian hambatan pembelajaran online matematika kelas V di SDN Gugus 4 Kecamatan Bagor Kabupaten Nganjuk. Penelitian ini merupakan jenis penelitian deskriptif kualitatif dengan menggunakan teknik pengumpulan data melalui angket, lembar observasi, wawancara, dan dokumentasi. Responden penelitian adalah guru, orang tua dan siswa di SDN Gugus 4 Kecamatan Bagor Kabupaten Nganjuk dengan jumlah siswa 142 orang, guru 6 orang dan orang tua 5 orang. Hasil penelitian menunjukkan bahwa (1) guru telah melaksanakan perencanaan pembelajaran online mata pelajaran matematika kelas V yang dituangkan dalam bentuk RPP, (2) pelaksanaan pembelajaran online mata pelajaran matematika kelas V dapat terlaksana dengan baik dimana siswa menyatakan bahwa guru telah mengelola pembelajaran online dengan baik, respon dan aktivitas siswa senang, mereka dapat mempersiapkan diri, mereka terlibat aktif, dimana hasil belajar yang diperoleh baik, (3) Evaluasi online pembelajaran mata pelajaran matematika kelas V telah dilaksanakan oleh guru yang dapat menjelaskan bahwa pembelajaran yang dilaksanakan berjalan efektif dengan peningkatan hasil belajar mata pelajaran matematika kelas V, (4) Faktor pendukung pembelajaran online mata pelajaran matematika kelas V yaitu adanya jaringan internet, kemampuan sumber daya manusia dalam melakukan pengelolaan terkait pembelajaran daring, (5) Faktor penghambat daring pembelajaran mata pelajaran matematika kelas V yang dikeluhkan oleh guru, orang tua siswa dan jaringan siswa tidak stabil, dan (6) Upaya yang dapat dilakukan guru adalah melakukan pembelajaran dengan menggunakan multimedia seperti video, audio, CD-ROM berbasis dan berkolaborasi dengan orang tua siswa terkait pengawasan siswa saat melakukan pembelajaran daring di rumah.

Kata Kunci: pembelajaran online, matematika

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INTRODUCTION

Almost all parts of the world including Indonesia are currently being hit by the Corona Virus Disease 2019 pandemic, commonly abbreviated as Covid-19. Covid-19 is so very scary and threatens human life. The Covid-19 pandemic has had an impact on almost all sectors of human activity, such as markets, transportation, tourism, and activities in the education sector have been affected by Covid-19. Before the Covid-19 pandemic, learning activities were carried out face to face, where students and teachers met in one room, interacting in the teaching and learning process. However, during the Covid-19 period, learning activities were carried out online or online, learning was no longer carried out face-to-face because regulations prohibited it.

The online learning policy is a decision that needs to be taken by all education stakeholders in Indonesia, one of the objectives of which is to suppress the spread of Covid-19. With the policy that learning must be carried out online, all education stakeholders, school principals, teachers and parents of students need to prepare technical implementation. Online learning is new for most teachers and students, especially at the elementary school level.

Online learning is a solution in learning activities during the pandemic but still reaps controversy and various obstacles including the ability to master technology and the economy of parents of students, where not all students have facilities to use in online learning such as mobile phones, laptops or notebooks, internet quota quite expensive and the network does not support it, especially for students who are less able to access the internet (Purnawinadi, 2021; Wiradarma et al., 2021; Yoga Mauludy Afarizi Lutfiansyah & Agatha Kristi Pramudika Sari, 2021).

This provides an understanding of the need for preparation and readiness for all education stakeholders. The readiness of schools to carry out online learning is a challenge and problem, especially related to the availability of technological devices, such as computers owned by schools that can support the learning process, the ability of teachers and education staff to utilize technology, the ability of students to use technology, the limitations of technological devices they have students, internet access that is not yet stable at the place of residence.

However, through online learning, it provides opportunities and encourages teacher creativity in developing learning strategies. Teachers should innovate in developing learning methods, models and strategies for students and leave conventional learning which is often still carried out face-to-face in class. The use of media should provide benefits for teachers and students. The role of the media during the pandemic has become crucial and the only tool to be able to convey material to students, both media delivered online or media designed for students to study independently. However, a teacher also needs to pay attention to student learning readiness so that the learning strategies and material to be conveyed in learning can be accepted, understood and well understood by students. In addition, teachers need to prepare everything from planning to evaluation so that learning becomes effective. According to (Al Amin & Murtiyasa, 2021; Shabir, 2022; Wityastuti et al., 2022) the effectiveness of learning is inseparable from quality activities in the planning, implementation, and

evaluation carried out by the teacher. Therefore, teachers should pay attention to the important elements of a learning design, namely: (1) clarity of learning objectives, (2) effective learning activities, (3) guided exercises, and (4) checking understanding or evaluation.

Furthermore, in designing online learning, a teacher needs to adjust and reduce the difficulties students will experience, such as lack of quota, student internet speed and so on, so that teachers can provide alternative learning resources to all students. The teacher's success in designing and compiling materials, learning strategies, and combining them with applications that are appropriate to the material and learning methods is a form of creativity and the key to success for teachers to be able to motivate students during a pandemic and can still foster students' enthusiasm for learning online (online).

Basically, students will be very happy to come to school and take part in face-to-face learning, especially for mathematics subjects. Mathematics for most students is an unpleasant subject for students. In face-to-face learning, mathematics is also less desirable, so through online learning it is also necessary to look for appropriate and interesting methods and alternative methods, so that students are motivated to remain actively involved and be able to learn independently. In online learning, the teacher's supervision of each student will be reduced because the teacher cannot monitor one by one like face-to-face learning in class.

With the ability and competence of a teacher in creating learning strategies, it will make it easier for teachers to design learning and encourage students to have better motivation and learning achievement. Good learning design and learning strategies will certainly encourage students to be more creative in participating in learning and carrying out learning activities.

In addition, online learning has been designed through planning and using appropriate learning strategies so that the teaching and learning process can be carried out properly. However, what is no less important is the evaluation of online learning that has been implemented, where evaluation is one indicator that can be seen as a success of the strategy or learning method applied and through the evaluation of learning, a teacher can find out that the design or strategy of online learning implemented effectively or not yet (Fernanda et al., 2021; Harahap et al., 2021; Purnamasari et al., 2021).

METHODS

This research is included in the type of descriptive qualitative research, because in this study it tries to get a symptom that is happening from individual phenomena in teaching and learning activities in schools by providing a systematic, factual and accurate description of the various problems faced by students and teachers in learning activities. In collecting data, researchers used a variety of data collection techniques that were considered appropriate to the conditions of the research object and its variables. Data collection techniques in question: Interviews, observations, questionnaires (questionnaires), documentation. As stated, through questionnaires, observations and documentaries

NO	PERNYATAAN	PENILAIAN									
		SS		S		N		TS		STS	
		Jml	%	Jml	%	Jml	%	Jml	%	Jml	%
8	Saya senang mengikuti pembelajaran dalam jaringan (daring/online) yang diselenggarakan guru	0	0%	67	47%	22	16%	53	38%	0	0%
9	Saya senang guru menggunakan multimedia dalam pembelajaran	9	6%	111	78%	22	15%	0	0%	0	0%
10	Saya selalu mempersiapkan atau membaca materi sebelum mengikuti pembelajaran	0	0%	44	31%	89	63%	9	6%	0	0%
11	Saya berusaha untuk terlibat aktif dalam pembelajaran	9	6%	89	63%	44	31%	0	0%	0	0%
12	Saya mengikuti pembelajaran daring dengan antusias	0	0%	67	47%	44	31%	31	22%	0	0%
13	Pembelajaran daring dapat mendorong minat belajar saya	0	0%	54	38%	44	31%	44	31%	0	0%
14	Menurut saya, pembelajaran daring yang diselenggarakan menarik	22	15%	67	47%	31	22%	22	15%	0	0%
15	Melalui pembelajaran daring, saya meluangkan waktu lebih dalam belajar	9	6%	106	75%	27	19%	0	0%	0	0%
	HASIL BELAJAR										
16	Saya dapat memahami materi yang disampaikan oleh guru	9	6%	115	81%	18	13%	0	0%	0	0%
17	Pembelajaran daring yang diselenggarakan mendorong cara berpikir saya lebih sistematis	9	6%	67	47%	66	46%	0	0%	0	0%
18	Pembelajaran daring yang diselenggarakan mendorong saya untuk berpikir kritis	9	6%	67	47%	44	31%	22	15%	0	0%
19	Saya dapat meningkatkan hasil belajar melalui pembelajaran dengan multimedia	9	6%	89	63%	44	31%	0	0%	0	0%
20	Pembelajaran daring mampu mendorong cara berdiskusi yang lebih baik	18	13%	106	75%	18	13%	0	0%	0	0%

Based on the table above it can be explained that according to the student indicators that the teacher manages learning in the network (online/online) well, most students agree that as many as 111 students or 78%, then 18 students or 13% even state that they strongly agree, while the rest 13 students or 9% stated neutral and there were no students who disagreed or strongly disagreed. This

explains that the teacher has managed learning in the network (online/online) well for online mathematics learning activities at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For the indicator that the teacher started learning by asking students, most of the students agreed, namely as many as 89 students or 63%, then 44 students or 31% even stated that they strongly agreed, while the remaining 9 students or 6% stated neutral and there were no students who stated disagree or strongly disagree. This explains that the teacher starts learning by asking students in online mathematics learning activities at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators that teachers can encourage students to be active in learning, most students agree that as many as 89 students or 63%, then 44 students or 31% state that they are neutral or doubtful that the indicator is carried out by the teacher, while the remaining 9 students or 6% disagree. This explains that teachers can encourage students to be active in online mathematics learning at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators that teachers use multimedia learning, most students agreed, namely as many as 107 students or 75%, then 9 students or 6.3% stated that they strongly agreed, and there were 13 students or 9% each who stated neutral or doubtful and disagree if the indicator is carried out by the teacher and no one expresses strong disagreement. This explains that teachers use learning multimedia for online mathematics learning activities at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators that teachers always carry out assessments and evaluations in learning, most students agreed that as many as 111 students or 78%, then 31 students or 22% stated that they strongly agreed the teacher carried out these indicators and no students stated neutral, disagreed and strongly don't agree. This explains that teachers always carry out assessments and evaluations in learning for online mathematics learning activities at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators that the teacher provides material according to what has been previously determined, most of the students agreed, namely as many as 89 students or 63%, then 27 students or 19% stated that they were neutral or doubtful that the teacher carried out these indicators and there were 17 students or 12% stated disagree, while the remaining 9 students or 6% stated strongly agree. This explains that the teacher provides material in accordance with what has been previously determined for online learning activities for mathematics subjects at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators that the teacher uses the time according to what has been determined, most of the students agreed, namely as many as 89 students or 63%, then 35 students or 25% stated that they were neutral or doubtful that the teacher carried out these indicators and there were 18 students or 13% who said they were very agreed, there were no students who disagreed or strongly disagreed. This explains that the teacher uses the time according to what has been determined for online mathematics learning activities at SDN Gugus 4, Bagor sub-district, Nganjuk district.

Furthermore, for the category of student responses and activities to online mathematics learning with indicators of students enjoying participating in online learning organized by the teacher, most students

agreed that as many as 67 students or as much as 47%, then 53 students or 38% stated did not agree and the remaining 22 students or 16% were neutral or students who were in doubt enjoyed following the lesson and no students stated that they strongly agreed and strongly disagreed. This explains that in general students are categorized as happy to take part in online learning organized by teachers in the mathematics subject for fifth grade students at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators of students being happy with the teacher using multimedia in learning, the majority of students agreed, namely as many as 111 students or 78%, then 22 students or 15% stated that they were neutral or undecided, while the remaining 9 students or 6% stated that they strongly agreed. There were no students who disagreed and strongly disagreed. This explains that in general students are happy with teachers using multimedia in online mathematics learning for fifth grade students at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators students always prepare or read material before participating in learning, most students stated neutral or doubtful, namely as many as 89 students or 63%, then 44 students or 31% agreed, while the remaining 9 students or 6% said they did not agree. There were no students who strongly agreed and strongly disagreed. This explains that students do not always or have not fully prepared or read material before participating in online mathematics learning at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators of students trying to be actively involved in learning, most students agreed, namely as many as 89 students or 63%, then 44 students or 31% agreed, while the remaining 9 students or 6% said they disagreed. There were no students who disagreed and strongly disagreed. This explains that students are trying to be actively involved in online mathematics learning at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators of students participating in online learning with enthusiasm, most students agreed, namely as many as 67 students or further 44 students or 31% stated that they were neutral or doubtful, while the remaining 31 students or 22% stated that they disagreed. There were no students who strongly agreed and strongly disagreed. This explains that students are less enthusiastic about participating in online learning in the mathematics subject at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For online learning indicators that can encourage student learning interest, the majority of students agreed, namely 54 students or 38%, then 44 students or 31% said they were neutral or undecided, while the remaining 44 students or 31.3% said they disagreed. There were no students who strongly agreed and strongly disagreed. This explains that online learning can encourage student learning interest in the mathematics subject at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators of online learning that were held interesting, most students agreed, namely as many as 67 students or 47%, then 31 students or 22% stated that they were neutral or undecided, while the remaining 22 students or 15% each stated that they strongly agreed and disagreed. agree. There were no students who strongly agreed. This explains that the online learning being held is

interesting for students in the mathematics subject at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators through online learning, students spend more time studying, the majority of students agree, namely 106 students or 75%, then 27 students or 19% state that they are neutral or doubtful, while the remaining 9 students or 6% state that they strongly agree. There were no students who disagreed and strongly disagreed. This explains that through online learning, students spend more time studying the mathematics subject at SDN Gugus 4, Bagor sub-district, Nganjuk district.

While the student responses to the questionnaire in the learning outcome indicators can be explained that students can understand the material conveyed by the teacher, most students agreed that as many as 115 students or 81%, then 18 students or 13% stated neutral or undecided, while the rest i.e. 9 students or 6% stated that they strongly agreed. There were no students who disagreed and strongly disagreed. This explains that students can understand the material delivered by the teacher in online mathematics learning at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators students can improve learning outcomes through learning with multimedia, the majority of students agreed as many as 89 students or 63%, then 44 students or 31% stated neutral or doubtful, 9 students or 6% stated strongly agreed, no students disagree and strongly disagree. This explains that students can improve learning outcomes through learning with multimedia in the mathematics subject at SDN Gugus 4, Bagor sub-district, Nganjuk district.

For indicators of online learning being able to encourage better ways of discussing, the majority of students agreed as many as 106 students or 75%, then each of 18 students or 31% stated that they strongly agreed and were neutral or undecided, no students stated that they disagreed and totally disagree. This explains that online learning is able to encourage better ways of discussing mathematics at SDN Gugus 4, Bagor sub-district, Nganjuk district.

Observation Data

The results of the observations are the results of observations from teachers and accompanying teachers who are involved in learning the use of online mathematics learning at SDN Gugus 4, Bagor District, Nganjuk Regency. In this research, the observation was carried out by 6 observers (namely the teacher who was shown observing the teaching and learning process). Observations were made of activities carried out by teachers and students where each activity had predetermined indicators. The results of observations made by 6 teachers as learning observers are as follows.

Table 2 Observation Results

Indikator	Aktivitas yang dilakukan	Jumlah	%
Visual	Membaca, Memperhatikan	102	71,8%
Oral	Bertanya, Menjawab, Berdiskusi	127	89,4%
Listening	Mendengarkan Materi, Pertanyaan, Diskusi	135	95,1%

Emotional	Respek, Berminat Dan Bersemangat	123	86,6%
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Based on the table above, it can be explained that in general according to observer 1, in online learning, students have carried out visual activities such as reading and paying attention to what is conveyed by the teacher where according to observer 1 there are 102 students or 71.8% have done this. This means that there are still around 28.2% of students who have not done activities such as reading and paying attention in the learning held.

Furthermore, for oral indicators where students do asking, answering and discussing activities, based on observations made by observer 1 said that not all students are actively doing these activities, there are 127 students or 89.4% who are actively asking, answering and conducting discussions where these activities or activities are only dominated by students who are indeed active and have high enthusiasm in learning.

For listening indicators with listening activity to material, questions, discussions. Observer 1 argued that almost all students carried out listening activities either to listen to the material presented by the teacher or through video media, listen to questions submitted by teachers or fellow students and listen to ongoing discussions despite having a tendency not to engage in these discussion activities, which was 95.1%.

In the last indicators emotional with respectful, interested and passionate activity. Observer 1 said that the emotional state of the students was very good where they carried out respectful activities by listening to the opinions of friends, were not rowdy during discussions, and were interested in following the learning shown by staying afloat in following the learning and were excited which was shown by wanting to ask the teacher. Observer 1 stated that almost all students had carried out the activity, which reached 86.6%.

Documentation result data

Documentation data is secondary data or data needed in research to support the achievement of research objectives. The documentation data collected by the researcher is the learning outcomes of students who are respondents to this study. The learning outcomes taken are the average daily test scores of students' mathematics mapel.

The learning outcomes of mathematics studies students the average daily test scores of students in semester I and semester II are as follows.

Table 3. Summary of Student Learning Outcomes in Semester I and Semester II

No	Nama Siswa	Smt I	Smt II	Selisih	Prosentase	Keterangan
1	SDN Sugihwaras	8,07	8,30	0,23	2,75%	Naik
2	SDN Guyangan	8,03	8,37	0,34	4,11%	Naik
3	SDN Kerepkidul	8,08	8,30	0,21	2,56%	Naik
4	SDN Kutorejo	8,21	8,54	0,33	3,87%	Naik
5	SDN Gemenggeng	8,28	8,74	0,46	5,22%	Naik
6	SDN Kedondong	8,18	8,50	0,32	3,79%	Naik

Based on the table, it can be explained that online learning of mathematics maples at SDN Cluster 4, Bagor District, Nganjuk regency, from all students who are respondents to this study tends to experience an increase in mathematics maple learning outcomes from semester I to semester II. Although there are some students who have not improved or decreased, details can be seen in the appendix.

Mapel Mathematics Online Learning Planning

In the planning stage of online learning, the teacher has planned before carrying out online learning, through the preparation of Lesson plan, where in this activity is related to the implementation of learning via WhatsApp, such as sending a learning video link related to the material to be discussed, through the WhatsApp link the teacher gives assignments to students and the teacher sends a learning video link related to material related to how to solve problems that In relation to the material being discussed, there is also a face-to-face plan through virtual / online.

Implementation of Mapel Mathematics Online Learning

Based on the research data presented above, it can be further explained that the research involving respondents from teachers, parents and student elements through data collection techniques, observations, interviews and documentation explained that based on the questionnaire data distributed to students, it was found that almost all indicators unearthed related to online learning in mathematics maple argued that students agreed and strongly agreed so that if the average or more than 20 students or 69% state that the indicators provided have been implemented by teachers and students in the online learning process of mathematics maple at SDN Cluster 4, Bagor District, Nganjuk Regency. Although actually from the questionnaire data obtained, there are students who say neutral or doubtful that teachers and students take actions as stated in the indicators and there are even students who argue that they do not agree that teachers and students meet the indicators stated by the researcher in the form of questionnaires, and there are no students who strongly disagree that teachers and students meet the indicators stated by the researcher. These conditions apply to management activities carried out by teachers, student learning activities and learning outcomes that have been outlined in the questionnaire.

Based on the acquisition of questionnaire data related to implementation where most students agree and strongly agree that teachers and students meet the indicators stated by the researcher so that based on this questionnaire data it can be known and can describe that: (1) In my opinion, teachers manage online learning well. This means that in general the implementation of online learning has been declared good or students think it has been well implemented, (2) Teachers start learning by asking students. Most students have expressed agreement that teachers do the activity. It is intended by the teacher to provide stimulus and encouragement so that students can be actively involved in learning, (3) Teachers can encourage students to be active in learning. In this activity, the teacher has been able to encourage students to be active through questioning activities, encouraging students to discuss and answer questions, (4) Teachers use multimedia learning. This means that teachers have

used multimedia in learning which is shown by providing learning videos for independent learning by students, (5) Teachers always make assessments and evaluations in learning. Students agree that evaluations and assessments are always carried out by the teacher either through student activity and tests, or the provision of daily tasks for students, (6) Teachers provide materials according to what has been previously set. At the beginning of the planning, it has been determined through the Lesson plan so that the teacher has guidelines for learning and according to the students it has been carried out by the teacher based on the lesson plan he has, (7) The teacher uses the time according to what has been determined. This means that the teacher has used it efficiently and effectively, where the predetermined or set class hours can be used properly, (8) I like to follow the online learning organized by the teacher. Based on the questionnaire, students have agreed that most agree to take part in online learning even though there are some obstacles in the learning process, (9) I am glad teachers use multimedia in learning. When teachers use various media, such as videos so that students feel happy and can learn independently, (10) I always prepare or read the material before participating in the lesson. There is an activity carried out by reading the material before participating in the learning, meaning that the student is ready to receive the material because they have provisions before the learning begins, (11) I try to be actively involved in learning. Students always try to be actively involved in learning activities by asking, answering questions and discussing, (12) I follow online learning enthusiastically. In this activity, students feel unenthusiastic because they are constrained by networks during online learning, (13) Online learning can encourage my interest in learning. With online learning activities encouraging students' interest in learning where students can adjust their time, (14) In my opinion, online learning that is organized is interesting. Online learning is considered interesting by students because it uses various media and students are actively involved, (15) Through online learning, I spend more time in learning. Students can set their study hours to their liking because they can complete the charged tasks at any time, (16) I can understand the material presented by the teacher. Students can understand the material presented by the teacher through learning, multimedia provided by the teacher, (17) Online learning that is organized encourages my way of thinking more systematically. Students can think more systematically after participating in online learning, (18) Online learning that is organized encourages me to think critically. This means that through online learning students can think more critically, (19) I can improve learning outcomes through learning with multimedia. In online learning activities using multimedia encourages students to enjoy learning so that they can improve their learning outcomes, (20) Online learning is able to encourage better ways of discussing. Teachers encourage students to be actively involved in the learning, so that students can discuss.

Evaluation of Online Learning Mapel Mathematics

Based on the observation data obtained from shiva activity activities, it can be explained that in general teachers and students have carried out activities as stated in the observation sheet indicators. This means that students have carried out reading, paying attention, asking, answering,

discussing, listening to material, questions, discussions, respect, interest and enthusiasm where in general students have carried out these activities above 70%.

And based on the learning outcomes, it will be known the effectiveness of online learning of mathematics mapel where it can be explained that there are as many as 29 students or 90.6% who experience an increase in learning outcomes. However, the apparent increase in learning outcomes was around 10 students or 31.2% with an increase rate above 10%. Meanwhile, 19 students experienced an increase in learning outcomes from the first semester to the second semester with an increase rate of not too high.

Supporting Factors for Online Learning in Mathematics

From the information submitted by the teacher, it was revealed that basically online learning is not a problem in terms of its implementation because the school has an internet network that can be utilized by all teachers. In addition to the internet network facilities owned by schools, another factor is the ability of human resources where teachers become creators in online learning that prepare materials, find learning resources, and make various media that teachers can provide to students through providing material with videos or multimedia. And there is support from most parents of students so that their children can still learn.

Meanwhile, according to parents, there is a use of video (multimedia) that can encourage students to learn optimally. In addition, parents also argue that those who support online learning are due to policies and leeway from teachers or schools to be able to collect assignments given the next day, so that students can do according to the time they have. As for the factors hindering online learning, according to the teacher revealed in the interview are as follows:

Factors Inhibiting Online Learning in Mathematics

In this study, it was revealed that the main obstacle in online learning is the internet network, especially in the networks owned by students where during virtual face-to-face meetings it becomes not optimal and the electronic devices owned do not all support online learning. In addition, the impact of unstable networks in online learning, makes it difficult for teachers to control students during virtual face-to-face, making it very possible that students are not monitored in ongoing learning. And there are also parents who say that the biggest obstacle is in tools (laptops, cellphones) that students do not have (Abroto et al., 2020; Khasannah & Nurrochmah, 2021; Syahmi et al., 2022).

Efforts to Overcome Obstacles to Online Learning in Mathematics

Efforts that can be made by teachers, parents and students in order to overcome obstacles that occur in online learning in mathematics include: (1) Unstable networks, networks are a very important part of infrastructure in online learning. These barriers can only be fixed or overcome by third parties (network service providers). However, the instability of this network can be substantially addressed by teachers by using multimedia, such as the use of learning videos or providing links to material that can be downloaded by students, so that the use of the network is not too much, (2) Difficulty in controlling or supervising students in online learning is one of the obstacles in online learning. This

can be overcome by involving parents in online learning supervision so that teachers are helped. In addition, providing understanding and understanding to students about the importance of learning so that independently, discipline in following learning, (3) Lack of tools (laptops / cellphones) owned by students. This can be solved by borrowing a cellphone from the student's parents. However, to minimize the use of laptops/cellphones, teachers can take advantage of other media such as video, audio and or use various CD-ROM-based learning elements to improve learning communication, and if forced to use modules or teaching materials that have been adjusted by the teacher (Andi Setiawan & Suci Maghfirah, 2021; Badriyah et al., 2021; Sanuhung et al., 2022).

CONCLUSION

Based on the discussion of the data that has been obtained and the discussion above, this study can conclude several things, namely: (1) Online learning planning for mathematics mapel class V SDN Cluster 4 Bagor District, Nganjuk Regency has been carried out by teachers properly as stated in the form of RPP, (2) The implementation of online learning in mathematics mapel class V SDN Cluster 4 Bagor District, Nganjuk Regency can be carried out properly where students state that the teacher has managed online learning well, responses and activities of students who are happy, can prepare themselves, are actively involved, where the learning results obtained are good, (3) Evaluation of online learning of mathematics mapel class V SDN Cluster 4 Bagor District, Nganjuk Regency, which has been carried out by the teacher can explain that the learning carried out runs effectively with the improvement of learning outcomes of mathematics mapel class V, (4) Factors supporting online learning of mathematics mapel class V SDN Cluster 4 Bagor District, Nganjuk Regency, namely the existence of an internet network, the ability of human resources in managing online learning, (5) Factors hindering online learning in mathematics mapel class V SDN Cluster 4 Bagor District, Nganjuk Regency, which is complained by teachers, parents and students is an unstable network, (6) Efforts that can be made by teachers are to carry out learning using multimedia such as video, audio, CD-ROM-based and collaborating with parents students are related to student supervision while conducting online learning at home.

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