



Problematic Elementary School Teachers in The Process of Learning Mathematics Online during covid-19 Pandemic

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Abstract: The problem that arises in teaching mathematics in the time of the covid-19 pandemic needs to be a concern. Learning is not only the responsibility of the teacher, the role of parents very important in helping students do online learning. This research was conducted to look at the obstacles faced by elementary school teachers while doing online math learning during the COVID-19 Pandemic. Furthermore, this study reveals what factors can be inhibited or support the process of learning mathematics during the COVID-19 pandemic. The method used in this study is qualitative descriptive by providing questionnaires and conducting interviews. The subject of this study was an elementary school teacher in the dukupuntang sub-district of the Cirebon regency. The results of this study show that in general elementary school teachers are not ready to do digital learning. Another obstacle that hinders the learning process is the lack of understanding of teachers and students regarding the use of distance learning applications. So, the government support that has helped ease the burden of internet quotas by subsidizing free quotas to teachers, students and the availability of Wi-Fi in some areas does not seem to be able to maximize used to for online learning.

Keywords: Online Learning, Inhibiting Factors, Supporting Factors, Primary School Mathematics, the COVID-19 Pandemic.

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INTRODUCTION

Education is a learning activity around knowledge, skills and habits conducted and passed down from generation to generation through teaching, training, or research. In education, there is certainly a so-called learning process, which is an activity carried out by a teacher with his students in the classroom. According to Pane and Dasopang (2017, p. 338) explained that the learning process is a system that involves several interconnected components and interconnected interactions that aim to achieve an expected result optimally essay with the previously set goals. The success of education can certainly be seen from the quality of education, Siti Maesaroh (2013)

revealed that education is said to be successful if the learning process of teaching is going well and produces quality output. Success to achieve the goal of education certainly needs to be based on a good learning process from the elementary, one of the levels of education that is the foundation in succeeding the progress of education is the elementary school level. Therefore, primary school teachers should be able to provide good learning for students on all subject matter. Putria et al (2020) explain that teachers as the vanguard of education have a duty to teach, educate, instruct and guide up to giving assessments, evaluating to provide moral and mental support to students.



Mathematics is one of the regular subjects taught starting from primary education to college. Wiryanto (2020) suggested that mathematics learning in elementary school is not only oriented towards the mastery of materials but rather mathematics material is positioned as a tool and means for students in achieving competency. Mathematics also has an important role in life, especially in improving thinking for every human being.

In early 2020 education in various countries including Indonesia was implemented differently due to the arrival of a virus called Corona Virus Disease 2019 (COVID-19). Many countries deliberately closed schools and temporarily suspended learning activities to minimize the spread of COVID-19.

As of 30 July, 133 countries, territories, and areas have reported CRF data and 54 countries, territories and areas have reported weekly aggregate numbers. A total of 16,298,556 confirmed cases had been reported globally (WHO, 2020). In the current emergency, the Minister of Education and Culture of the Republic of Indonesia issued Circular Letter No. 4 of 2020 containing the implementation of education policy in the emergency period of the spread of the COVID-19 virus. The circular covers national exams, home learning, school exams, class raises, admissions from new students, and school operational assistance funds. The provisions of the learning process from home set out in SE Number 4-year 2020 contain four points as follows: first, learning from home through online/remotely implemented to provide a meaningful learning experience for students, without burdening the demands of completing the entire curriculum achievement for class promotion and naiveness. Second, learning from home can be focused on life skills education among others regarding the Covid-19 pandemic. Third, learning activities and tasks learn from home can vary between students, according to their interests and conditions, including considering the gap in access/learning facilities at home. Fourth, evidence or products of learning activities

from home are given a good feed that is qualitative and useful from the teacher, without the need to give quantitative scores/scores.

With the release of the Circular Letter, the learning process is recommended through online learning for both elementary and college schools. Online learning is a learning activity that is generally done using internet media, can use a mobile phone or computer as an intermediary. According to Imania (2019), online learning is a form of conventional learning delivery that is poured into digital formats using the internet. The condition of learning in elementary school is generally done conventionally face-to-face, this will certainly be a new thing for elementary school teachers. This is certainly problematic because of the lack of ready primary school teachers in applying online learning. Changes in the learning system due to the COVID-19 pandemic so quickly require elementary school teachers to re-learn technology. Educators, especially primary school teachers, realize that the implementation of distance learning will be more effective if done using the right internet network and technology, because only with the help of technology can learning be done without having to face-to-face with students. The difference that may be very clearly seen is the medium of math learning that is usually given in the form of concrete objects that can be seen directly by students or objects around it, in online learning teachers must certainly be able to provide visual media that can be accepted by the child to understand the context of the math material in the elementary school correctly.

Referring to the data of the Cirebon district statistics agency (2020) Dukupuntang sub-district is one of the sub-districts located in the Cirebon regency with an area of 37.44 km² from 13 villages contained in it. The number of elementary school teachers in the Dukupuntang sub-district is 281 people from 28 elementary schools in the sub-district. Dukupuntang sub-district is an area directly adjacent to two other districts namely Kuningan Regency and Majalengka Regency with the dominance of hilly areas. In online



learning that requires a stable internet network, it is necessary to choose the right internet service access for the resulting network to be good. The importance of technology and information skills or so-called ICT skills is also very important in succeeding online learning because teachers certainly need to have good ICT skills so that online learning can be done to the maximum. According to Saputra (2017) stated that the literacy level of TIK of elementary school teachers in Cirebon Regency is at level two of the six available levels, where teachers repeatedly use technology to help with their daily activities and have had a recurring pattern in their use, although there is not yet fully available ICT access both at home and in school.

With a government policy that requires learning to be done online, distance learning will certainly run as expected, especially in schools in villages with rough facilities. The obstacles that may occur in online learning, especially in mathematics lessons, need to be reviewed to create good online learning. Therefore, research is needed on the problem of elementary school teachers in the process of learning mathematics online during the COVID-19 pandemic.

METHOD

This research is a type of qualitative descriptive research, to provide a complete picture or description of the problematics of elementary school teachers in the process of learning mathematics in the network during the COVID-19 pandemic. Hasyim (2000) said the descriptive method is a research method aimed at describing and studying the problems that exist today. The subject of this study was an elementary school teacher in the Dukupuntang Sub-district of Cirebon Regency. The sampling technique used is a random sampling sample, i.e., all members of the population have the same opportunity to sample research.

Data collection techniques are activities carried out to obtain the data that researchers need to be used later in the research. The data collection techniques

used in this study are interviews and questionnaires or questionnaires online. Interviews are conducted semi-structured using the phone in WhatsApp app, this is done to support the government's recommended distance movement to prevent covid-19 transmission. Data obtained from interviews and questionnaires will be analyzed using miles and Huberman concepts namely data reduction, data display, and conclusion. Miles and Huberman (in Sugiyono, 2015, 337) suggest that activities in qualitative data analysis are conducted interactively and continuously until complete so that the data is saturated.

RESULTS AND DISCUSSIONS

The purpose of this research is to find out the problem of elementary school teachers in the process of learning mathematics online during the COVID-19 pandemic. The results of this study are in the form of statements obtained from questionnaires and interviews conducted with respondents. The questionnaire is distributed online through google form and continued the interview by phone in WhatsApp application. The results of the study are as follows.

Polls

The questionnaire was created in the form of a google form that was then distributed to all primary school teachers in the Dukupuntang Sub-district of Cirebon Regency. The questionnaire given is a type of open poll whose answer can be filled according to the respondent's condition. The purpose of this questionnaire is to find out what problems elementary school teachers face in Dukupuntang Sub-district in teaching mathematics online and to see what are the inhibition and supporters of online learning in the covid-19 pandemic. The purpose of this poll is also to find out if the region is ready or still not ready to run online learning. Here are the diagrams and answers are given by respondents in the poll.

List of questions:

1. Did you do online math lessons during the COVID-19 pandemic?

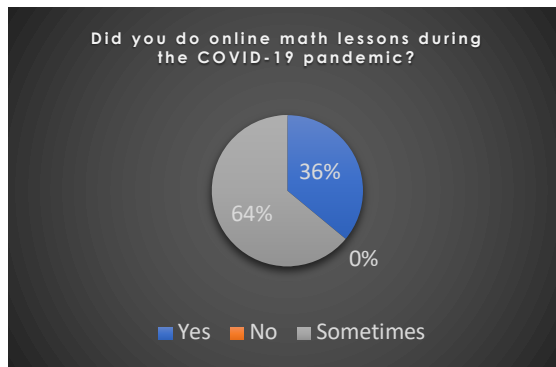


Figure 1. First question

The diagram showing the results of the questionnaire filled by respondents shows that all teachers have done online learning even though most teachers are still not routine, just doing it sometimes.

2. What applications do you use in online learning?

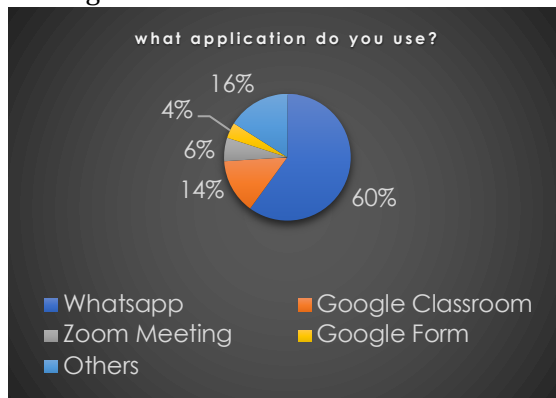


Figure 2. Second question

From the diagram, it appears that teachers are more dominant in using WhatsApp app compared to other apps to do online learning.

3. What difficulties do you face during the covid-19 pandemic?

Some of the diverse answers appear as follows:

- a. Some teachers can't make learning videos.
- b. Some teachers do not have adequate communication tools to carry out learning activities online.

- c. Not all students have gadgets. So that the assignment is not conveyed to all students.
- d. Understanding students who cannot be assessed directly so that sometimes the material must be repeated.
- e. Because of the long-distance so less controllable.
- f. It is difficult to explain or convey in detail about the calculations and the difficulty of reaching out to children whether lessons can be understood or not. Of course, by studying online students are also not very active.
- g. Difficulty when offline: students seem too lazy to learn due to a large number of online learning.
- h. Difficulty when online: students seem to find it difficult to understand the material because indirectly the learning is distant.
- i. Condition students to be able to participate in online learning activities to the maximum.
- j. Difficulty in providing understanding to students to be able to utilize gadgets as a learning medium used.
- k. Difficulty to get applications that can be used for online learning with minimal internet quota usage.
- l. Difficult in conveying material, especially formulas.

Broadly, it can be seen that difficulties in online learning due to many factors such as the ability of teachers who still do not master ICT, network limitations and internet quotas, students who are not used to learning online make it difficult to understand the material and also the limitations of the facilities that both students and teachers have.

4. Do you communicate to parents about online learning?

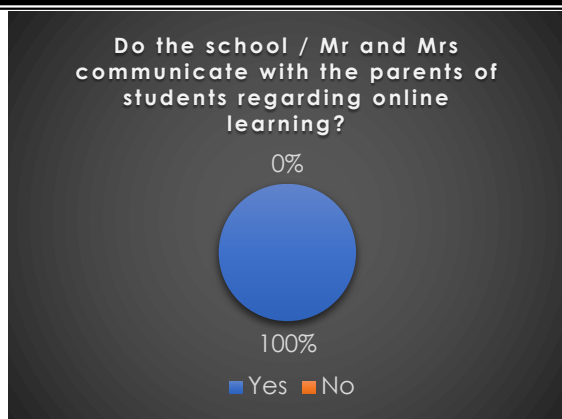


Figure 3. Question four

Good communication between school and parents is visible from the diagram. This is certainly important because emergency learning in the current pandemic needs support and cooperation between schools, teachers, parents, and also students so that the learning that is done can run properly.

5. What are the factors that are inhibiting you in carrying out online mathematics learning during the COVID-19 pandemic? Based on the poll that has been spread, there are several inhibitory factors faced by teachers in elementary schools, including:
 - a. Not all students have communication tools that can be utilized for online learning.
 - b. Economic conditions during covid-19 are erratic, making some students unable to participate in learning due to limited internet quotas.
 - c. Connection or internet network that cannot reach all areas and some technical obstacles.
 - d. Lack of interest in students in learning Mathematics because mathematics is difficult.
 - e. How to deliver materials and signals.
 - f. Parental unpreparedness to guide students at home while online learning is being carried out.
 - g. Students prefer to play games.
 - h. Some teachers cannot take advantage of internet facilities. Both students, parents, parents are less able to master gadgets.

From some of these statements, there is a factor in the inhibition in online

learning of mathematics is the absence of communication tools that students have, limited internet quotas, less stable network connections, up to students who prefer to play compared to learning.

6. Are there supporting factors that can help you in carrying out online mathematics learning during the COVID-19 pandemic?

Some supporting factors presented by the teacher in carrying out online mathematics learning as follows:

- a. Parental readiness in guiding students in learning activities.
- b. Various programs launched by the government to help to learn activities ranging from learning videos aired in television media, free internet quotas, and online training.
- c. Various applications that can be used for learning activities ranging from YouTube, WhatsApp, google classroom to zoom meeting.
- d. Freely accessible learning resources.
- e. A wide range of widely published learning videos.
- f. Wi-Fi network that is starting to spread to several areas.
- g. The sophistication of communication tools can hone the creativity of teachers to make learning more enjoyable.

Supporting factors are certain facilities needed in online learning such as internet networks or Wi-Fi. It seems that the importance of collaboration between the government and parents is a strong supporting factor for the success of online math learning, in addition to the many learning resources that students can access, certainly making it easier for students to understand the material independently.

7. According to Mr./ Mrs., are teachers in the area where You / Mrs. teach in general ready to do online learning in the emergency as it is now?

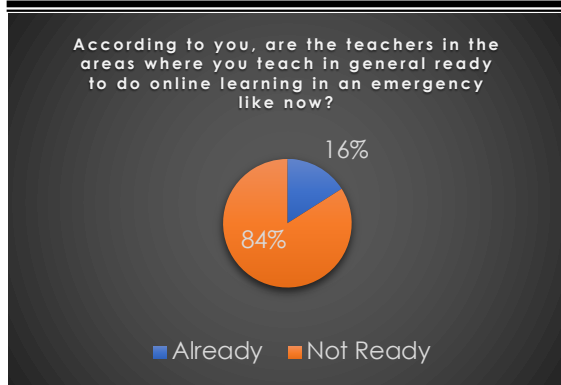


Figure 4. Seventh question

Some previous questions have explained the difficulty of teachers in teaching during pandemics as well as factors explaining how many factors can hinder and also factors that support mathematics learning online. From these statements' teachers in the dukupuntang sub-district of Cirebon district answered that in the area where teaching the majority are not ready to do math learning online, but some schools turned out to be ready with online learning as it is today.

Interview

The interview used was a semi-structured interview with several major respondents in several elementary schools dukupuntang sub-district Cirebon district. This is done to provide a deepening of the data that has been obtained previously through the questionnaire. Here are some of the results of interviews conducted by phone in the WhatsApp app as follows:

1. Is it during your time to do online learning? If so, what application is used and how is the procedure implemented?
" yes, as long as the learning pandemic is done online cannot be done face-to-face. More frequently used applications of course using WhatsApp group because it is easy to use and also more efficient in the use of internet data. In the study, the learning usually starts only using chat first in WhatsApp group to then the students follow by responding to the chat. Occasional video calls are also made alternately to see if students are studying. WhatsApp group is very important because often the materials that students

will learn first are sent into the group. For tasks are also often informed through WhatsApp group to be later done and sent the results of the answer independently by sending a personal chat to me. During online learning be it a task or a handwritten note in a notebook as usual. The results of the task can be photographed only then submitted. Study time is done according to the usual schedule when studying at school so that students still feel learned as usual". (grade V teacher of SD Negeri 3 Dukupuntang).

2. What difficulties did you face during providing math learning online during the COVID-19 pandemic?

"This different learning process results in students understanding the subject matter. Students need to be explained over and over again to understand the math material especially if it is already related to the formula. I was a teacher who sometimes finds it difficult to find the right teaching materials to give to students because teaching materials cannot be shown and explained directly, can only be in photos and then sent to students. In a difficult place the internet network is often constrained when downloading materials or images and videos that I send; this is certainly very inhibiting at the time of learning will take place because it has to wait for all students to get the material. Also, in terms of assessment teachers are not easy to provide grades because the ability of students is not seen directly because the assignment stipulated is also sometimes not students who work independently". (grade 4 teacher of SD Negeri 1 Cangkoak).

3. What are the factors that often hamper you/your mother in doing math learning online?

"There are still some students who do not have the communication tools to do online learning, they sometimes group with other friends. Unstable internet networks make the delivery of subject matter files disrupted. During the learning process, sometimes there are students whose internet quota runs out, this certainly makes students finish the



class faster and not get the maximum learning. Students find it difficult to ask math materials online because students are used to asking teachers directly, students complain because math material that is only a reading they cannot understand". (grade 6 teacher of SD Negeri 1 Dukupuntang).

4. What are the factors that can support you in doing math learning online?

"If a student's parents can take their time to help their child learn it is very important because students mostly find it difficult to understand for themselves what is learned. Parenting is very important. If you have a more internet Quota, it is easier for students to find other learning resources to understand their math materials more easily. Nowadays every village has free Wi-Fi access and this is often utilized by students when doing chores. As for the help from the government a little help in providing free quotas, not only for students but for me as a teacher is also given a quota subsidy". (grade 3 teacher of SD Negeri 3 Dukupuntang).

Based on the results obtained from polls and interviews conducted, it can be concluded many problems occurred in the implementation of the online mathematical learning process during the current COVID-19 pandemic. This pandemic makes teaching and learning activities disrupted because the learning system that is usually done face-to-face must change by doing online. Problems arise from the unpreparedness of teachers and students in conducting online learning, to other factors that hinder such as inadequate network and internet access. Student attendance is certainly also affected, as it is difficult to expect students to be fully present during this pandemic. According to Dewi (2020, 4), online learning can be done using digital technology, but what must be done is to monitor the tasks given so that the child is learning. The importance of coordination between teachers and parents can be an alternative so that students are helped during the learning process, parents can send photos of activities while the child is learning and communicate with the

teacher when the child has difficulty understanding the math materials provided. In addition to the difficulty of students in understanding the subject matter, especially mathematics, another impact of learning in this pandemic period is the length of time the school is taken off. Because too long at home results in students feeling saturated because elementary school students tend to be active and happy to move, those who are used to studying in school activities with their friends but in this pandemic period students are required to stay home only. Student complaints about not having learning media are still found because many of them do not have a mobile phone in person and have to share with their parents. The importance of communication tools as a medium is also expressed by Purwanto, et al (2020, 7) that this facility is very important so that the learning process of teaching becomes smooth, namely laptop, computer, or mobile phone as a medium that facilitates teachers to deliver learning materials online.

The importance of moral support by teachers is also an important factor in the success of online math learning, as elementary school students desperately need the motivation to learn. Putria, et al (2020) explains that the teacher's way of motivating students is to provide interesting and fun assignments for students, and teachers give a video that can give students direct encouragement despite having to do distance learning online.

CONCLUSION

The sudden changes that occur in the education sector bring many new obstacles to the learning process that is usually done face-to-face, currently must be done remotely. Creative ideas about online learning are emerging, but it is still necessary to be careful for students to receive the fullest amount of subject matter. This is because the application of online learning is still difficult to implement if given to elementary school students with many teachers and students who do not understand remote learning applications, not only WhatsApp but also other



applications such as google classroom, zoom meeting, and so on. Government support that has helped to ease the burden of internet quotas by giving free quota to teachers and students, parents who have provided gadget facilities for their children to use, and the availability of Wi-Fi in some villages seems to have not been felt to the maximum to carry out online learning. The lack of ready educators to do digital learning is also an inhibition in the implementation of teaching online. Thus, of course, the government must be more serious in providing training on ICT to elementary school teachers for teachers to innovate in providing and providing teaching materials to their students.

REFERENCES

- Badan Pusat Statistik Kabupaten Cirebon. (2020). *Kabupaten Cirebon Dalam Angka 2020*. Cirebon: BPS Kabupaten Cirebon.
- Dewi, W. A. F. (2020). Dampak Covid-19 Terhadap Implementasi Pembelajaran Daring Di Sekolah Dasar. *Edukatif: Jurnal Ilmu Pendidikan*, 2(1), 55–61.
- Imania, Kuntum An Nisa. (2019). Rancangan Pengembangan Instrumen Penilaian Pembelajaran Berbasis Daring. *Jurnal PETIK*. 5, 31-47.
- Maesaroh, S. (2013). Peran Metode Pembelajaran Terhadap Minat dan Prestasi Belajar Pendidikan Agama Islam. *Jurnal Kependidikan*. 1(1). 150-168.
- Menteri Pendidikan dan Kebudayaan Republik Indonesia. (2020). *Surat Edaran Nomor 4 Tahun 2020 tentang Pelaksanaan Kebijakan Pendidikan dalam Masa Darurat Penyebaran Coronavirus Disease (COVID-19)*. Retrieved from <https://bit.ly/3dTEqaQ>.
- Muhammad Hasyim. (2000). *Penentuan dasar Kaedah Penelitian Masyarakat*. Jakarta: Pedoman Ilmu Jaya.
- Pane, A., & Darwis Dasopang, M. (2017). Belajar Dan Pembelajaran. *Jurnal Kajian Ilmu-Ilmu Keislaman*, 3(2), 333–352. <https://doi.org/10.24952/fitrah.v3i2.945>
- Purwanto, A., Pramono, R., Asbari, M., Santoso, P. B., Wijayanti, L. M., Hyun, C. C., & Putri, R. S. (2020). Studi Eksploratif Dampak Pandemi COVID-19 Terhadap Proses Pembelajaran Online di Sekolah Dasar. *Journal of Education, Psychology and Counseling*, 2(1), 1–12.
- Putria, H., Maula, L. M., Uswatun, D. A., 2020. Analisis Proses Pembelajaran Dalam Jaringan (Daring) Untuk Guru Sekolah Dasar Pada Masa Pandemi COVID-19 Di SD N Baros Kencana CBM Sukabumi. *Jurnal Basicedu*. 4(4), 861-872.
- Saputra, A, I. (2017). *Analisis Tingkat Literasi Teknologi Informasi dan Komunikasi Guru Sekolah Dasar di Kabupaten Cirebon*. Thesis. Universitas Pendidikan Indonesia.
- Sugiyono. (2015). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. CV Alfabeta.
- Syarifuddin. (2014). Literasi Teknologi Informasi dan Komunikasi. *Jurnal Penelitian Komunikasi*. 17(2). 153-164.
- Wiryanto. (2020). Proses Pembelajaran Matematika Di Sekolah Dasar Di Tengah Pandemi COVID-19. *Jurnal Kajian Pendidikan dan Hasil Penelitian*. 6(2).
- WHO. (2020). Coronavirus disease (COVID-19): Situation Report–198World Health Organization (2020). <https://www.who.int/docs/default->



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