

The Appropriate Remote Learning Methods During the COVID-19 Pandemic in Rural Schools in Indonesia

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ABSTRACT

This study investigated the remote teaching methods during the COVID-19 pandemic in rural areas of Indonesia. Research participants were seven teachers in elementary school, junior high school, and senior high school in rural areas. This study employed a qualitative method with interviews, online observation, and documentation studies as data collection techniques. The results showed that remote teaching methods were designed in online learning using instant messaging groups, teacher visits, and learning activities at meeting points at predetermined locations. The study results concluded that remote teaching in rural areas and those who experience internet connection barriers can be circumvented through visiting teacher activities and student gathering points while still following health protocols.

Keywords: remote learning method, rural School, pandemic COVID-19.

1. INTRODUCTION

One of the COVID-19 pandemic impacts in education is the change in the learning management process from classroom-based learning to learning from home. The Ministry of Education and Culture of the Republic of Indonesia has established learning from the home policy since March 24, 2020 [1]. Implementing the policy regarding the obligation to study from home aims to avoid social interaction between communities. This is to minimize the spread of the COVID-19 virus [1]. This decision was made by several countries affected by COVID-19 [2]–[4]

Learning from home demands proper management from all parties, including principals, teachers, students, and parents [5]. Learning from home can run effectively when supported by adequate learning facilities and tools such as internet access, textbooks, and online learning systems that teachers and students can use [6]. In addition, it requires the quality of exciting and adequate learning media to support the learning process [7].

However, learning from home experiences has many obstacles, especially in rural areas [8]. One of

the problems faced by education personnel in rural areas, both teachers and students, is limited internet access [9], [10]. Based on interviews with teachers in Talegong District, Garut Regency, West Java, Indonesia, in March 2021, the researchers obtained information that only a small number of students had internet access, especially elementary and junior high school students. Meanwhile, most students in the high school group already had an internet connection.

Another fact that the researchers have obtained was that only about 50% of students and parents had smartphones at the elementary school level. Likewise, only about 70% percent of students and parents at the junior high school level had smartphones. The data were quite interesting at the high school level; namely, the researchers got information that 80% of students already had smartphone facilities that could support learning programs from home. However, some of them experienced limitations with adequate internet access. Some researchers reported an increase in internet bills during distance learning programs [11].

Learning from home is an application of distance learning. Distance learning is a learning process where

students and teachers do not meet face to face but use communication media such as the internet [12]. The crisis condition caused by the Covid-19 Pandemic demands a change in learning from traditional to remote learning. To carry out successful remote teaching, it is necessary to develop five stages, including the preparation, planning, implementation, operation, and evaluation phases [13]. Several remote teaching methods can be designed in the full online form using online platforms such as Google Classroom, Edmodo, LMS, MOOCs, and blended learning, a combination of online and face-to-face learning that follows strict health protocols.

Based on previous studies and analyses, the researchers were interested in exploring in-depth how the findings in the field and how remote teaching-learning management was implemented, especially in learning practices in rural areas that had limited access to information and communication technology. Thus, this study aimed to map the management pattern of remote teaching-learning in rural areas.

2. METHOD

This research was a case study research. A case study is a study that seeks to examine a problem through specific questions [14]. The limits of a case study research are through three aspects: data from several sources, issues that occur in real life, and theory to conclude [15]. Meanwhile, [16] defined a case study as a study that uses in-depth description and analysis in a limited system. They further explained three case studies' characteristics, namely researchers as the main instrument in data collection and analysis, using inductive investigation strategies, and the studies' results containing detailed descriptions [16].

The research analysis unit was centered on the difficulty level analysis of emergency distance learning. The proposition that was the main focus of this research was that learning difficulties experienced by students, teachers, and parents of students were related to the learning process in rural areas in Talegong Garut, Indonesia. The researchers focused on support skills using supporting digital technology, such as learning platforms and supporting hardware (smartphones, laptops, and computers). Other aspects were supporting learning resources that can be used, namely internet access and teaching materials accessible to students.

Talegong is one of the sub-districts in Garut Regency. Because of its distance from the center of the capital city of government (146 KM), it is often suspected that the slow development process is slow in the context of infrastructure and human resource development. Talegong sub-district has 14 kindergartens, 20 study groups, 31 elementary schools,

12 junior high schools, and seven high schools across seven villages [17]. More than 8,500 students were affected by the policy of studying at home due to the Covid-19 pandemic. This case study research included the following steps: (a) determining the case study's object, (b) selecting specific cases, (c) developing research questions, (d) looking for forms data to be developed based on research questions, (e) determining data collection methods, (f) carrying out data collection, (g) writing down findings, (h) and developing explanations of the results. This stage of the case study adopts opinions by [18], [19].

2.1 Research Subjects

The subjects involved in this study were seven teachers from elementary, junior, and high schools (Tabel I). The technique to choose the participants at each level was carried out randomly by considering the participants' willingness to participate in the research. Teachers are the main subject because they have all the possible information needed to answer research questions.

2.2 Data Collection Procedure and Instrument

This study's data collection techniques include in-depth interviews and documents analysis (syllabus, learning materials, photos, videos). In-depth semi-structured interviews were conducted with all research subjects. In-depth interviews aim to obtain accurate information from the main issue [20]. Interviews were conducted by telephone with a duration of 30-60 minutes for each respondent. Using a guide, the discussion will be more focused, and the research objectives will be relatively easy to achieve [21]. Aspects and indicators of interview guidelines can be seen in Table 2.

Document analysis was carried out on all documents owned and used by teachers and students in the learning process, such as syllabus, lesson plan, study textbooks, student worksheets, assignments given by the teacher, student answers, questions, and test answers, learning photos and videos, as well as student work. The types of document analysis in this study are described in Table 3. All of the documents were provided by the teachers.

2.3 Data Analysis

The data analysis used to reveal all the findings in this study included focus group discussions (FGD), discourse analysis, content analysis, and document and artifact analysis. In detail, focus group discussions were conducted between researchers and experts on relevant topics to confirm the accuracy of the data collected [22]. Discourses analysis was done to the results of field notes during interviews, observation,

and documentation study. Content analysis of all relevant references was performed to support or not support the research's findings [23]. The document

analysis and critique of artifacts found in the field's study process, both from the subject of teachers, parents, and students.

Table 1. Respondents Data

Respondent	Gender	Teaching at	Teaching experience (years and field)
Respondent 1	F	Elementary school	Seven years in social science
Respondent 2	M	Middle high school	Seven years in language
Respondent 3	F	Middle high school	Eight years in biology
Respondent 4	M	Middle high school	Nine years in language
Respondent 5	F	Senior high school	Five years in language
Respondent 6	M	Senior high school	Nine years in language
Respondent 7	M	Senior high school	Eleven years in math

Table 2. The Interview Guidelines

No	Aspects
1	Teachers perception
2	Technology support learning
3	Instructional design
4	Assessment
5	Parents roles
6	Government support

Table 3. The Documents Analysis

No	Object to observe	Observation activities
1	Instructional design Document	Syllabus Lesson plan Student worksheet
2	Learning materials	Learning materials package book Teaching media (power points) Audio learning media Learning video media
3	Learning assessment	Test questions/tests Question answer rubric

3. RESULT AND DISCUSSION

Based on the respondents' data collection results, we obtained several adjustments toward teaching and

learning activities carried out by teachers in rural schools, including online learning, meeting points, teacher visits, coming and collecting assignments (Tabel 4, Tabel 5).

Table 4. Remote learning methods used by the teachers

No	Respondents	School Level	Instant Messaging	Meeting point	Teacher visit	Take Assignment and self-learning	Google Meet	Google Classroom
	Respondent 1	ES	✓	✓	✓	✓	x	x
	Respondent 2	JHS	✓	✓	✓	✓	x	x
	Respondent 3	JHS	✓	✓	✓	✓	x	x
	Respondent 4	JHS	✓	✓	✓	✓	x	x
	Respondent 5	SHS	✓	✓	✓	✓	x	x
	Respondent 6	SHS	✓	✓	✓	✓	x	x
	Respondent 7	SHS	✓	✓	✓	✓	✓	✓

Notes: ES: Elementary school, JHS: Junior High School, SHS: Senior High School

Table 5. Remote learning methods implemented as long as pandemic COVID-19

School Level	Month of 2020												Month of 2021							
	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7			
Pre-School																				
Elementary School	FO		TVLC		SH		TVLC					BL			TVLC		SH	FO		
Junior School																				
High School	FO																			

Notes:

FO= Full online: Using online learning platforms such as Learning management system (LMS), Google Classroom, Zoom, Google Meet, WhatsApp Grup. No face to face

TVLC= Teacher visit & learning communities, meeting point, task, and self-learning

BL= Blended learning: 50% face to face in classroom, 50% using online, 50% capacity of school

SH= School holidays.

3.1 Online learning

The first model that the teachers do was online learning. Technically, online learning is carried out using simple to high-level technological support. For simple technology, teachers use instant messaging social media group facilities. Meanwhile, for the use of quite advanced technology, namely using the Google Classroom and Google Meet or Zoom facilities for videoconferencing needs (Fig.1). Unfortunately, of all the respondents interviewed, none of the schools had a learning management system facility, so they had difficulty designing structured online learning. Only a few teachers in high schools used Google Classroom. Most of the others preferred to use the method of sending materials and assignments through short message groups.

The process of learning from home in a rural context raises pretty complicated problems. The directive not to do face-to-face learning in the class raises several problems faced by teachers, students, and parents. Limited internet access, online learning support platforms, limited learning resources, and teachers' ability to package learning from home are still problems. Meanwhile, parents complain about the

students' low motivation to study and the increasing internet bill [9], [10].

In general, students' perceptions of learning from home were divided into two, students who liked it and did not like it. The group of students who liked it was due to flexibility and efficiency, self-awareness and self-development, and opportunities to learn new technologies. Meanwhile, students who stated that they did not like distance learning included limited infrastructure, technological difficulties, and financial problems [24]. Several fundamental issues are related to student's satisfaction in the context of teacher's service. Students expect teachers who are skilled in packaging interesting online learning [25]. One thing that can be done is to package learning designs in learning management systems such as Google Classroom, Edmodo, and others [26].

In addition, to realize quality remote learning, teachers do not only focus on guiding, supervising, and teaching students but also trying to involve students' parents [8], [27]–[29]. Parents need to be the key to successful learning from home. Parents can supervise and provide positive support for their children. However, it should be understood that not all parents can provide maximum guidance, especially in high school and college students. This is due to the limited

insight and learning experience during their youth. Especially when it comes to using technology. Of course, this needs to be addressed wisely.

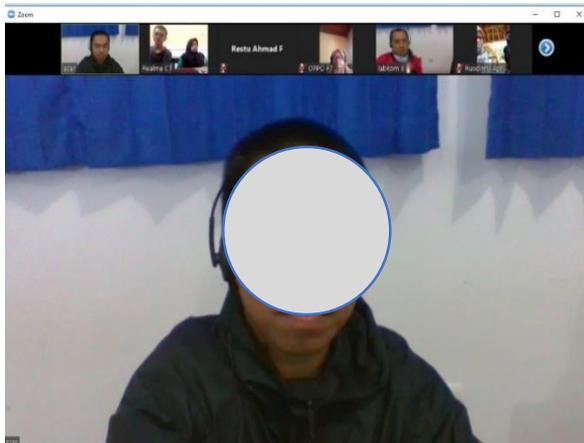


Figure 1 Online teaching via zoom meeting

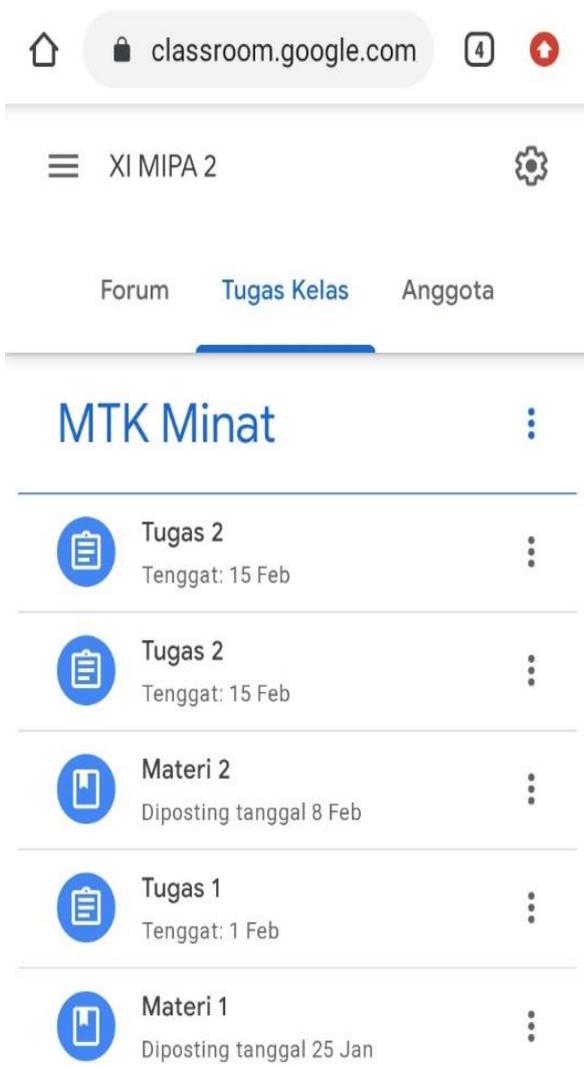


Figure 2 Online learning platform using Google Classroom in Senior High School

3.2 Meeting point in learning communities and teacher visit

One of the activities carried out was teacher visits at student gathering points in each village. Numbers still meet the established health protocol standards. This visiting teacher is familiar in several other countries in the same context in rural areas [30]–[33].

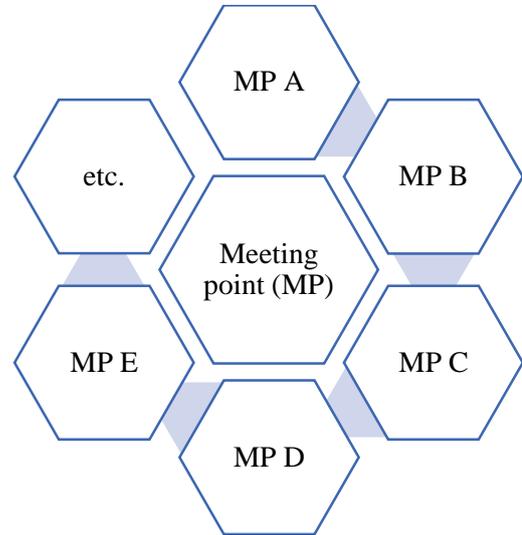


Figure 3 Meeting point in the learning communities

Technically, students gathered based on the location where they lived (Fig.3). The activity was carried out in places of worship, open fields, and government meeting halls. The number of students who come was set no more than 20 students. Furthermore, it also adjusted to the availability of the places. In one week, each meeting point could be visited by the teacher at least one time. During the visit, the teacher focused on assisting the learning difficulties faced by students. Then, the teacher came in turn. The limited-time each teacher can only deliver the subject matter for about 20-30 minutes.

3.3 Take Assignment and Do Self Learning

In addition, in several months, the remote teaching-learning process was also designed in the form of students coming to school in turn within the stipulated time limit. It aimed to enable students to take teaching materials for assignments and, at the same time, collect assignments from previous meetings so that the process of delivering messages from teachers to students through assignments that are routinely given occurred. At the same time, students were asked to fill in the questions and assignments given by the teacher. As a result, in practice, students got help from their parents, siblings, or more mature friends to guide learning and did assignments given by the teacher. In theory, this learning process is considered ineffective because there is no process of presenting and delivering information and discussions between

students and teachers to achieve learning objectives. Nevertheless, unfortunately, this model is also not very effective because the teacher does not have the opportunity to explain the material that students must master.

To maintain the quality of the learning process amid the COVID-19 pandemic, the government needs to be wise in making decisions. Learning in rural and urban areas cannot be generalized. The zoning grouping of the spread of COVID-19 cases must be carried out in an integrated manner between data from the Ministry of Health and the Ministry of Education. So that learning can be designed appropriately in each regional condition [34]. For areas with the green category, the option of face-to-face learning while still complying with health protocols can be an alternative. Meanwhile, for areas with yellow zoning, a mix of face-to-face and online modules can be determined. As for the red zoning, the implementation of complete remote learning is the most appropriate choice (Figure 4).

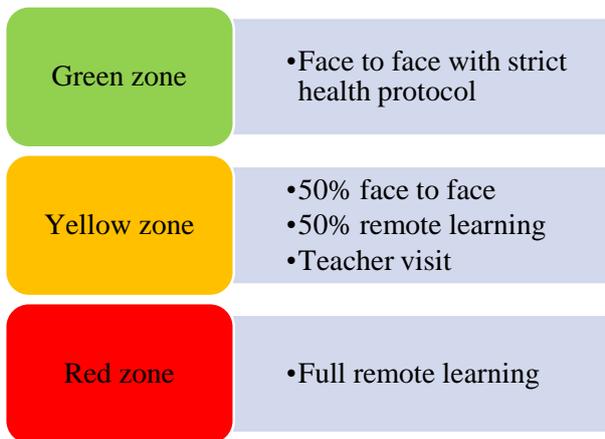


Figure 4 The flexibility of school policy in rural areas

Another study reported that learning activities in rural areas during the covid pandemic should ideally be carried out with adequate technological support [9], [35]. In addition, there needs to be an increase in teaching skills in presenting subject matter in audio-visual form or the form of audio recordings [7], [36]. The material to be delivered is recorded by the teacher in the form of video or audio. Then the teacher can upload the material to the online learning system or send it directly through social media groups that have been agreed to be used [37]. Besides that, teachers can summarize the material presented in digital handouts sent in PDF format and used as reading material for students [38], [39]. In addition, students can also work on assignments given by the teacher, which have been provided in PDF form. Nevertheless, the fact is that not many teachers can design simple information-communication technology-assisted learning as has been reported in previous studies.

One of the problems faced by teachers in distance learning is the trustworthiness of the assessment. Some teachers reported low student motivation, including when given assignments. In addition, the teachers also reported that some of the students' work seemed unnatural. That raises new problems related to academic integrity and the importance of realizing trustworthiness assessment [40]. It is not easy to control the achievement of student learning outcomes authentically given the many limitations. Video and oral-based assessments were chosen to reduce academic dishonesty [41]. In addition, project-based assessment by collecting a complete portfolio is an alternative that can be applied [42].

conclusion

Limitations of internet access, availability of technology, learning management systems, and learning resources such as books appear in the case of remote learning in rural areas. A flexible policy under the zoning status of the spread of COVID-19 cases needs to be considered. Schools in the green zone are advised to conduct face-to-face learning by implementing strict health protocols. Schools in the yellow zone can apply a blended model between 50% face-to-face and 50% remote learning and visiting teachers. Meanwhile, schools in the red zone are advised to carry out a whole remote learning. It aims to maintain the quality of student learning. Facilities and financial support and the development of teacher skills in designing remote learning are essential to be considered by the government.

Morover, the provision of adequate learning resources (books, e-books), sufficient internet access, the availability of supporting technology devices such as computers, laptops, smartphones at every meeting point and learning communities also need to be considered in the future. More in-depth research on the different levels of student involvement, motivation and the impact of changes in learning outcomes on each type of learning method needs to be investigated in future work.

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