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# DISTANCE LEARNING STRATEGIES USING TECHNOLOGY FOR ELEMENTARY SCHOOL STUDENTS IN YOGYAKARTA DURING THE COVID-19 PANDEMIC

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#### ABSTRACT

This research aims to explore the experiences of teachers in implementing distance learning strategies for elementary school students. Participants in this research were 6 teachers from public elementary schools in Yogyakarta who ranked first. In-depth interview method as a data collection technique. Data analysis using semantic reduction. The results of the research found that distance learning in Yogyakarta public elementary schools used an inquiry strategy or deepening of the material itself by students. Learning is carried out by providing material and giving assignments. The media used is an application on the internet that supports distance learning distance learning include teacher competence, student ability to operate learning tools, different cognitive abilities of students, unfamiliarity with distance learning, internet stability, adequate internet quota, and less intensive parental assistance.

Keywords: Covid-19 Pandemic, Distance Learning, Inquiry Learning, Phenomenology, WhatsApp

#### 1. INTRODUCTION

Conditions around the world are still concentrating on handling the Covid-19 pandemic. The virus pandemic is spreading globally, affecting all areas of life. Not only health aspects, economic, social, religious, and even educational aspects have experienced significant changes. In terms of health, there is no cure for this virus, immunity is the main weapon in dealing with it [1]. The economy is paralyzed because no activities are running. The effects of a pandemic also greatly affect social and religious conditions where people cannot carry out social activities or even carry out religious activities in places of worship. The world of education itself is also affected by this condition. The thing that is most felt in the world of education is the cessation

of the direct learning system in schools [2]. As a result of this pandemic, automatically also has an impact on the learning process. To maintain a conducive atmosphere and prevent the spread of the COVID-19 pandemic, the government made a circular by stopping all learning, both at the primary school and tertiary levels, using distance learning. Instead, learning is carried out online or online to achieve the educational goals that have been carried out. Long before the corona pandemic, online distance learning had been carried out in several educational institutions in Indonesia [3,4]. However, during a pandemic, improvements with automatic distance learning increase even further.

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bud number 3 of 2020, it is stated that the implementation of education in the emergency period of the spread of COVID-19 is carried out at home through online or distance learning. In addition to fulfilling the obligations of learning completeness, this learning is also intended to provide meaningful learning experiences for students. A meaningful learning experience also plays a major role in a person's knowledge construction process [5]. Student experience will lead to the meaning of the material being studied. Meaningful knowledge will help students solve the problems faced. This experiential learning model is student-centered. This means that those who are active in learning are students, teachers only facilitate, direct, and provide stimulants in the learning process [6]. This allows students to research on their or inquiry, independent of others, and take responsibility for the learning they have done. Students will be familiar with activities in the form of carrying out activities, testing, and so on as a process to understand the material.

On the other hand, distance learning is learning that is done indirectly or face-to-face. Distance learning is a form of interactive learning effort using the internet and computer networks as learning facilities [7]. Distance learning in current development can be done with E-learning by advances in educational technology. The distance learning system is an old concept in the world of education. Starting from thinking about the increasingly complex problems faced in conventional learning, the distance learning concept emerged as an effort to improve better learning. This is evidenced by a shift in the learning process with the use of media that makes it easier and able to bridge the distance between teachers and students or educational institutions and learning participants [8].

distance learning models Some bv the development of information technology can use the google classroom application, Edmodo, google meeting, zoom and the easiest is in the form of WhatsApp groups [9,10]. The purpose of this research is to obtain information in learning during the COVID-19 epidemic period. Of course, not all students will be successful in this distance learning. The limitations of the main media such as cellphones or laptops, the stability of internet signals, and students' understanding of the instructional instructions that are conveyed are one of the challenges faced in this learning model. Environmental factors and student characteristics are the main factors for success in distance learning

[11]. Good distance learning can be traced from models and the novelty of learning forms using media and technology that have a positive impact on modern learning [12]. Distance learning or distance learning using e-learning for the level or level of higher education can run well because students can think and manage themselves. This is confirmed by Bass which states that the theory of andragogy, transformational learning, and experiential learning, and by integrating independent learning practices and critical reflection, will be able to increase educational effectiveness [13].

Meanwhile, for low levels of education, in this case, elementary school students are certainly a problem in itself, both in terms of facilities, students' ability to understand instructions, and accuracy in doing what the teacher instructs. Based on the background of the problems above, several problems can be identified, namely the competence of teachers in elementary schools in delivering distance learning, the strategies used in learning, and evaluation in the learning outcomes that have been carried out. The problems in this learning strategy in elementary schools raise many problems, both in the delivery of material, student readiness, use of learning media, and others [14]. To limit the problems that arise, this research focuses on the teacher's strategy in providing distance learning using the concept of e-learning.

One of the research problems that occur in this theme is the competence that teachers must have in distance learning. Pedagogic competence, where teachers are sensitive to the abilities and conditions of each student, are the basic competencies that must be possessed [15]. Teachers are also required to have more skills in delivering the material. Strategies and suitable methods can make it easier for teachers to achieve their learning goals. This demand to achieve the success of religious learning makes teachers have to be creative in finding strategies and methods that are suitable and by students' abilities. Understanding the importance of distance learning strategies that teacher's musthave, this research will specifically examine learning strategies that have been implemented by teachers in elementary schools in the Yogyakarta area. This research tries to answer the question about how the strategies are used by teachers in distance learning in elementary schools and what obstacles the teacher faces in implementing this distance learning. The research focus of this research is to describe the strategies employed by teachers in primary schools in the distance learning process.

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Distance learning for elementary school students is not easy, besides not all students can use gadgets or laptops properly, as well as information technology, therefore teachers need clear and detailed strategies when delivering subject matter to students, and using technology that is right according to the abilities of elementary school students. The research focus of this research is to describe the strategies employed by teachers in primary schools in the distance learning process.

# 2. METHOD

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#### 2.1 General Background

This research uses a phenomenological approach according to the type of qualitative research [16]. This research was conducted to explore further information about teachers' experiences in implementing distance learning in elementary schools. The specific purpose of this research is to obtain in-depth information about how to teach teachers during the COVID-19 pandemic using a distance learning model in primary schools. Besides, it will also dig up information about the obstacles or barriers to teachers in the distance learning process. This research was conducted for 3 months from March to June 2020. This research is expected to be the basis for further research development, especially for research on the theme of distance learning that is of higher quality and can achieve the targets of learning objectives during the COVID-19 pandemic.

# 2.2 Participants

The main data source or participants were teachers in public elementary schools in Yogyakarta. With the large number of schools that will become participants, the researcher determines the main participants using a purposive sampling technique, in which the informants are selected according to the provisions or criteria that have been made, namely all of them are teachers in public elementary schools which are number one and favourite schools [17]. The planned number is 10 teachers who become participants. This selection is based on the reason that teachers in public elementary schools already can implement distance learning well. Besides that, another consideration is the large number of students who make the reason for determining participants. The selection of 10 participants is based on a research design according to Creswell and Creswell that explores phenomena that can be carried out on heterogeneous participants between 3-15 people [17]. However,

based on the research results, only about 6 teachers were able to retrieve the data.

#### 2.3 Instruments and Procedures

The data collection of this research was carried out using in-depth interview techniques [17] to obtain good quality interview results, using interview guide instruments, and answered using voice notes. The interview questions are open and general which are arranged by the researcher to reveal the core phenomena of the research [17]. The duration of the interview was 45 to 60 minutes. Interviews were conducted at each primary school location with several considerations. First, the pandemic situation made data collection unable to be done directly or face-to-face, so the interview guide instrument was sent to the teacher to be answered online. Second, the researcher also tries to create a conducive atmosphere so that participants can answer freely and comfortably every question asked by providing the freedom to answer in terms of time and place [16]. In-depth interviews with respondents were carried out to obtain more information related to the learning strategies used, starting from the initial process/preparation for learning. implementing learning, evaluating learning that had been implemented.

In-depth interviews with respondents were carried out to obtain more information related to teacher competencies, the learning strategies used, starting from the initial process/preparation for learning, implementing learning, learning material, learning media, that had been implemented.

# 2.4 Data Analysis

Data analysis used coding analysis techniques where the research data were made of themes between five to seven themes [17]. The data reduction stage in the analysis has an important role and part to reveal data based on the experiences of participants. To obtain quality data, several stages are carried out, namely classifying important statements in the main theme, and describing the meaning of the experience of the phenomenon as a whole. The essence of the description is what is being experienced and how the individual deals with this experience [16]. The data analysis procedure in this research began by converting the voice recording from the interview into a transcript so that it could easily check the various information contained therein. The researcher carefully reads the interview transcript several times. Along with this process, researchers also select important information or themes contained in it into important

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statements. The important statements identified by the researcher were further grouped into central themes. These important statements and central themes are then used to create textural descriptions, namely descriptions of what the participants experienced. Important statements and central themes are also used by researchers to create structural descriptions, namely descriptions of how participants experience the phenomenon. The final step in this data analysis procedure is to write down the essence of all the phenomena experienced by the participants. Essence description is a combination of textural and structural descriptions that reveal the essence of the phenomena experienced by the participants.

#### **3. RESULTS AND DISCUSSION**

The results showed that there were at least five interesting and central themes in the distance learning process during the pandemic in elementary schools. First, teacher competence. The teacher's ability plays an important role in achieving it in distance learning. Based on Law of the Republic of Indonesia number 14 of 2005 concerning teachers and lecturers, article 10 paragraph (1) states that teacher competence as referred to in Article 8 includes pedagogical competence, personality competence, social competence, and professional competence [18]. Pedagogic and professional competence in distance learning has the most important role. The teacher's ability to explain the material and make learning interesting is one concrete form of this competency.

Second, the learning strategies applied by the teacher are also an interesting theme in distance learning. In a very limited condition during a pandemic with a distance learning system, teachers only have limitations in implementing their learning strategies. The majority of teachers use online or online learning strategies. Third, limitations in the strategies used will have an impact on the form of learning. Almost all teachers provide learning in the form of assignments. One side of giving assignments can stimulate students to find something new themselves (inquiry). However, on the other hand, students' this form of learning causes students to be bored or bored so that it affects the activeness of students in doing and collecting assignments or even not doing assignments.

Fourth, automatic learning material is also adjusted in this distance learning. Teachers are more likely to provide essential or important material from the expected competencies. This is understandable because the teacher has the problem of not being able to provide all the material in distance learning. Fifth, the learning media used by the teacher initially took the form of online applications such as zoom, google classroom, google meet. But in its development, many teachers have switched to using the WhatsApp group application with the consideration that almost all students have communication tools or cellphones to carry out distance learning. While the previous program, not all students were able to operate it. Apart from the need for the internet which is quite a lot. Meanwhile, the main themes found in the research in particular can be seen in Table 1 below.

Table 1: Main themes of distance learning

Main Theme	Information		
Competence	Pedagogic, Personality,		
	Social, and Professional		
Learning Strategies	Online		
Forms of Learning	Giving of tasks		
Learning Materials	Essential		
Learning Media	Online applications		
	(WhatsApp group,		
	Google classroom,		
	Google Meet, and Zoom)		

By the conditions and situations during the COVID-19 pandemic, government provisions regarding the implementation of education are automatically adjusted to the conditions and abilities of schools, teachers, and students. One form of adjustment is the existence of a distance learning policy for all levels of education, including elementary schools. Distance learning is implemented to replace direct learning with face-toface methods during the COVID-19 pandemic [19,20]. This policy was taken by almost all countries to provide alternative learning for the sake of continuing the learning process. the existence of automatic distance learning or online policies also deals with aspects related to the learning process. Such as learning targets that are not high and learning models that are easy and effective. The process of implementing distance learning in general can be seen in Figure 1 below.

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*Figure 1: The process of implementing distance learning* 

By the concept of Distance Learning in Law Number 20 of 2003 concerning the National Education System Article 1 Paragraph 15 which states that Distance Learning is an education in which students are separated from teachers and learning uses various learning resources through communication technology, information, and other media. The school and parents must provide several electronic devices, networks, and learning resources that are used for access to learning [21]. The distance learning process was initiated and developed in the United States, France, Germany, and England in the 1800s. Furthermore, in 1980, (International Correspondence Schools) (ICS) by building a system/method of home-study courses with a distance learning system and developing E-Learning [22].

In distance learning several important things that are important and need to be considered, namely, teacher competence, learning strategies, learning materials, learning media, and other forms of learning. By-Law No. 14 of 2005 on Teachers and Lecturers, Article 10 paragraph (1) states that teacher competence as referred to in Article 8 includes pedagogical competence, personality competence, social competence, and professional competence [18]. Ideally, in the learning process, this competency must be mastered by the teacher. However, in a COVID-19 pandemic like this, not everything is mandatory. In general, teaching skills and professional skills are the basis for distance learning, although other competencies are still being pursued [23]. This is reinforced by one teacher who stated that "In distance learning, the teacher must be able to master the appropriate strategy even though it is done online. The form of assigning to students must be done continuously

because the results can later be reported to the teacher. Delivery of material or communication to students must be clear because not all understand what is assigned to students".

The important meaning or essence of teacher competence in distance learning is so that learning material can be achieved and understood by students. Pedagogic competence is the ability to understand students, design and implement learning, evaluate learning outcomes, and develop students to actualize their various potentials [24]. Sub competence in pedagogic competence in understanding the condition of students in-depth which includes understanding the principles of cognitive development, the principles of personality, and identifying students' initial teaching provisions. One teacher said that "My experience in teaching for many years, the main thing first is knowing the abilities of students so that we know it will be able to make teaching strategies. In distance learning, the teacher must know the abilities of students, so that less capable students usually need to be reminded constantly by asking parents to supervise". In pedagogic abilities, teachers are expected to be able to design learning, including understanding the educational foundation for the benefit of learning which includes understanding the foundation of education, applying learning and learning theory, determining learning strategies based on student characteristics, competencies to be achieved, and teaching materials, and compiling learning designs. based on the chosen strategy.

Professional competence is the mastery of learning material broadly and deeply, which includes mastery of subject curriculum materials in schools and the scientific substances that cover the material, as well as mastery of the scientific structure and methodology. Mastery of the material includes structures, concepts, and scientific mindsets that support the lessons being able. Mastery of competency standards emphasizes the basic competencies of the development subjects being handled [25]. The teacher's explanation from the interview results implied that "Even though the COVID-19 pandemic conditions that have occurred until now do not know when it will end, teachers still have to be professional in providing learning, as a form of carrying out the teaching profession". Based on the results of the research, it was found that the learning given by teachers during the pandemic was using self-learning strategies or inquiry. This is by what the teacher said in the interview "Learning during the COVID-19 period, teachers usually provide material for students to

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learn, students are then asked to do assignments or questions given by the teacher, then assignments or answers to questions are sent to the teacher via the WhatsApp group that has been made up".

The learning forms that have been carried out by the teacher in distance learning begin with the stages of planning learning and implementing learning. Two forms of distance learning are carried out, namely by giving material first to students to be studied, after which they are given assignments in the form of questions. The teaching material provided is still by the existing learning grid as the main material. The learning media used in distance learning mostly use applications that can be downloaded by students themselves or commonly used, the Zoom application, google meet, google classroom, Edmodo, and a simple application, namely WhatsApp group. For elementary school students, the use of WhatsApp groups is seen as effective and efficient for learning in emergencies like now [26]. This is inseparable from students who are familiar with using it and it doesn't cost a lot. Unlike other applications that require a subscription and a system that is more complicated in operation, although some are free with a limited duration of use.

In distance learning, of course, some factors support and inhibiting factors in the implementation process. The main supporting factor in distance learning is the professional competence of teachers with standardized teaching materials and skills. A similar opinion was conveyed by a senior teacher who stated in the interview that "Ideally, to teach in this COVID-19 condition using distance learning, the teacher must have good competence. In this school, the teachers have been provided with previous training routinely before the existence of this COVID-19". Another supporting factor is the ability of students to operate learning tools on laptops or cellphones. In general, students in elementary schools already have communication tools that support the implementation of learning. Meanwhile, there are two inhibiting factors for the distance learning process, namely factors from within and factors from outside. The internal factor is the student's ability to understand the material provided by the teacher. Not all students can understand the material, especially in conditions of distance learning where the teacher cannot accompany them directly. Besides, students were not used to using distance learning. The absence of direct interaction with friends and teachers coupled with the same learning model during the COVID-19 period creates boredom for students. This affects students' craftsmanship in doing and collecting

assignments. This condition is supported by the teacher's evaluation which states "Some students are getting bored with this distance learning. Maybe because they are also bored at home and because of the assignment given by the teacher".

Another factor that inhibits the external side is signal interference in the learning process. Students living in areas some distance away from the city faced some problem of signal instability on their cellphones. Apart from that, the fulfillment of internet quota to support distance learning. Even though some schools have assisted in the availability of quotas, the intensity of use has increased internet needs and not all children can meet these needs. One of the teachers said that "That the need for the internet during learning has increased. And not all students can afford it even though the school has helped assist according to the school's ability, because school funds are also limited". Another inhibiting factor is that not all parents can assist students in the learning process. and all the old people are also good at technology.

Distance learning has an impact on students, parents, and teachers themselves [27]. The impact felt by students was in the form of their ability to adapt to the new learning model. Students who are accustomed to interacting directly with their friends and teachers are forced to interact with teachers and friends online. Students need time to adapt and face learning new models indirectly. This will affect the absorbing ability of each student [28]. Some can do well or some are not able to follow properly and optimally. Apart from students, parents are also required to be able to assist students in the learning process. While many parents have to keep making a living due to the impact of COVID-19 to meet family needs. The increased cost of distance learning is also an obstacle for parents [29]. Meanwhile, for teachers, the impact felt was related to competence in distance learning, especially the use of media. Many senior teachers feel unable to use and operate special applications such as google meet, zoom, or others so that teachers are ultimately required to develop competencies in supporting learning. Not to mention that the teacher has to make a strategy that is suitable.

# 4. CONCLUSIONS

Based on the analysis of the research data, it was concluded that the strategy used by teachers in distance learning in public elementary school students in Yogyakarta was inquiry learning, where students were given material and then asked to learn

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and understand themselves. The teacher will then provide an explanation related to the themes that have been given. While the forms of learning that are carried out are providing material and giving assignments in the form of questions or others. The learning media used is the use of the WhatsApp application which is considered suitable for students in elementary schools. The supporting factors in this learning are the competence of teachers who are professional and the ability of students to operate good learning tools such as cellphones or laptops. Meanwhile, the inhibiting factors are the various cognitive abilities of students, not accustomed to distance learning models, barriers to internet stability, insufficient internet quota, and less intensive parents to accompany students in learning. Other findings in this research are the need for students to adapt, intensive mentoring from parents, and increased teacher competence in supporting the implementation of the distance learning process.

# 5. LIMITATIONS

There are several research limitations faced in this research. Furthermore, this limitation can be concluded that the research was carried out in uncertain conditions due to the COVID-19 epidemic. As a consequence, research cannot be carried out optimally to explore more problems and results in the field. In particular, the instrument used in this research did not get more in-depth results from the interviews that were conducted with the participants. Besides, the number of participants who have not met the expected target becomes a problem in itself to further reveal the results of the research data.

#### 6. **RECOMMENDATIONS**

The results of the research illustrate that distance learning has its problems. One side of the school is required to continue to carry out learning by government policies and regulations. On the other hand, the obstacles and obstacles in the learning process are very much faced by teachers and students. Starting from the limitations of distance learning devices, suitable learning models, the material that must be conveyed to the competencies that must be possessed by the teacher. Older teachers have problems with information technology that supports the distance learning process. They have to adapt to the conditions so that they can continue to carry out learning. One important thing to note is the need for more government concern in supporting the smoothness of the distance learning process during a pandemic. The need for infrastructure, especially internet facilities, is urgently needed in the future. Besides, cooperation between the school, teachers, students, and student guardians is also very important. This is to support the achievement of learning objectives. schools must make learning policies that support the success of educational targets. Teachers with all their abilities will be required to be able to carry out distance learning effectively and efficiently. Student guardians or parents have the obligation to supervise, encourage, and motivate students to always be enthusiastic and have the desire to keep learning.

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