

# The Influence of Principals and Teachers on Improving Mathematics Achievement of Elementary School Students Using Google Classroom

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## ARTICLE INFO

### *Keywords:*

Influence of Principals and Teachers;  
Learning;  
Google Classroom

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### *Article history:*

Received 2022-01-19

Revised 2022-05-23

Accepted 2022-11-30

## ABSTRACT

At this time there is a shift in the learning system from face-to-face learning to a challenge. One of the bold lessons used is google classroom. There are still many principals who managerially have not maximized the learning of teachers and students in the process with this google classroom media, besides that teachers who should be the spearhead of implementing learning through google classroom also have not mastered this media to the fullest. So learning with google classroom media still has many obstacles. This study aims to measure the extent of the influence of principal managerial and teacher performance on the use of google classroom in improving mathematics learning achievement in elementary school students. This research method uses descriptive qualitative with a phenomenological approach. The subjects of this study were principals, teachers, and school students in Kepyar Village. The data collection used in this research is data collection through questionnaires, interviews, observations, and documentation. Data validity through triangulation of data sources. The results of this study are the managerial influence and performance of teachers who use google classroom to improve students' mathematics learning achievement in elementary schools. The benefit of this research is to provide a reference to teachers that the managerial influence of principals and effective teacher performance in the use of google classroom can improve student achievement in mathematics lessons in elementary school.

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## 1. INTRODUCTION

Many schools are not allowed to study directly due to the COVID-19 pandemic which has disrupted teaching and learning activities. In terms of online learning, the principal as the manager has a great

responsibility in improving achievement. At the planning stage, you must prepare teaching materials and Online learning facilities and infrastructure. At the implementation stage, some schools carry out learning well, but some are not carried out optimally because they are constrained by the availability of the network. At the monitoring stage, the principal monitors teachers, parents, and student learning outcomes online (Nadeak & Juwita, 2020). Principals play an important role as leaders in establishing an educational atmosphere and ensuring that students continue to receive meaningful learning. Therefore, it is necessary to take appropriate steps and good coordinate with all parties as a form of quick response from the school, so that the teaching and learning process during the COVID-19 outbreak continues smoothly (Irhandayaningsih, 2020).

In addition to the principal, a factor that also plays an important role in online learning is teacher performance. It is the teacher who plans, implements, and assesses the learning process. In carrying out daily tasks a teacher can certainly experience difficulties, both from within and from outside the teacher himself. But there are still many teachers who carry out their duties only to abort their obligations, without having a high sense of devotion. Due to the lack of a high sense of dedication, the goal of improving student learning outcomes will be difficult to achieve. So that it can be understood how important it is to increase work loyalty so that teacher performance can improve student achievement (Russamsi, Hadian, & Nurlaeli, 2020).

Google Classroom is an online classroom that allows students to communicate with each other, present learning outcomes, and view or display learning videos. Google Classroom is one of many virtual classes. Google is an application that is conditioned to load classes within classes (Wong, 2020). The shift from face-to-face learning to online learning has forced everyone to master technology. Technology is the only bridge that can connect teachers and students in learning without having to meet face-to-face (Romadhon & Zulela, 2021). However, there are still many obstacles to learning via Google Classroom. Lack of infrastructure, difficult internet network and many teachers who have not mastered learning via Google Classroom are obstacles to online learning.

In the implementation of online learning with Google Classroom, the success of the principal cannot be separated from the ability of the principal as a school manager in carrying out his main duties and functions. For this reason, a school principal is required to be prepared to manage schools. Readiness is meant here is the managerial ability of school principals regarding Ministerial Regulation Number 13 of 2007 concerning Standards of Principals/Madrasahs. The principal's managerial abilities include: formulating plans to develop organizations, leading, managing change and development, fostering habits and atmosphere, managing educators and education staff, managing facilities and infrastructure, managing relationships and the community, managing students, developing curriculum and teaching and learning activities, managing funding, managing administration, managing service units, managing information systems, utilizing advances in information technology, monitoring, evaluating, and reporting on the implementation of school/madrasah activity programs (Meidiana, Ahmad, & Destiniar, 2020).

In addition to the managerial leadership of the principal, the teacher must also be able to teach well and be full of responsibility. Students must also learn in a comfortable and fun way. Teacher performance evaluation is a way to improve teacher performance. Teacher evaluation focuses on certain characteristics being evaluated, not realizing that initial and permanent training, work atmosphere, type of lesson content, curriculum, and a varying number of student groups can also affect teacher performance (Gómez López & Valdés, 2019). The performance of a teacher is the duties and obligations carried out by the teacher in carrying out his main obligations. The quality of teacher performance will determine the good and bad quality of education. This is because the teacher is the person who is in direct contact with the students (Sulfemi, 2020). Based on some of the opinions above, it can be concluded that teacher performance is the result of work that has been carried out and carried out by teachers to carry out their main obligations. Good teacher performance is needed to improve student learning outcomes. The better the teacher's performance, the better the learning outcomes because the teacher is the person who is in direct contact with students in the field.

Teachers in teaching using google classroom carry out teaching and learning activities with virtual classes. Google Classroom is used to make it easier for teachers to carry out activities in learning activities with the blended learning method. because in Google Classroom there are features including communication, assessment, assignments, time fees, archives of lesson content, privacy, and mobile applications (Rahmawati, Nur Ismiyasari, Etika Rahmawati, & Abidin, 2021). Google Classroom can also integrate with the google suite, which most other LMSs don't have. GSFE has a variety of applications that students and teachers use for group communication, document generation, and online research. The integration of GSFE allows teachers to give learning assignments to elementary school students using applications, increasing their ability to master technology for the future (Fitria, 2013). This application will help teachers in online learning activities. This application is very easy to operate and the price is affordable. This application is a solution for teachers to carry out online learning which is currently constrained by the difficulty of infrastructure and expensive costs (Kurniawan, Purnomo, & ., 2020). Google Classroom can be easily implemented at the URL [classroom.google.com](https://classroom.google.com), users can quickly set up their virtual classroom. It is provided free of charge to schools. This platform also integrates with other Google tools to help teachers provide feedback and evaluate student progress to improve their learning achievement and also has a mobile application to be easily accessed according to needs (Natsagdorj Bayarmaa, 2018).

In using learning with the google classroom application, the principal aims to improve student achievement. Learning achievement achieved by students is related to student's ability to capture material in fun learning activities. The ability of each student used to capture learning material consists of three domains, namely the cognitive, affective, and psychomotor domains (Rozalia, 2017). Learning achievement is the ability of students to participate in learning activities with the results achieved (Pratama, Firman, & Neviyarni, 2019). Learning achievement is a student's ability to learn, namely to memorize and communicate knowledge both orally and in writing both in daily assessments, mid-semester assessments, end-of-semester assessments, and school exams. So, learning achievement can be said as the results obtained by students from learning activities in schools that are cognitive and are usually determined through written assessments (Izzaty, Ayriza, Setiawati, & Amalia, 2017).

The use of google classroom in this study focuses on mathematics. Mathematics is a discipline of science and behavior so all countries have made mathematics a compulsory subject matter in every school. In general, we can find five understandings of mathematical concepts including introducing real problems, identifying the main problem object, using appropriate social relationships, and teacher involvement in fixing model problems, encouraging the reinvention process. develop and focus on connections and aspects of mathematics. The technical and cognitive abilities of mathematics teachers need to be continuously developed (Joshi, 2017). By looking at the theory above, it can be concluded that mathematics is a subject that requires students to think logically, critically, diligently, creatively, and with initiative. The content of mathematics lessons at the upper-grade elementary school level is given separately from the content of other subjects and does not follow thematic learning so it is expected that the characteristics of students who study mathematics are given. Mathematics is a basic science that must be mastered to be able to understand other sciences.

Many problems arise during the COVID-19 pandemic. schools are closed so that the learning process does not run optimally. According to previous studies, it is an effective solution to activate classrooms even though schools have been closed to reduce the spread of COVID-19. Many digital resource platforms have been implemented by schools, one of which uses Google Classroom (DiCicco, 2016). In almost all schools, both students and teachers use google classroom in learning, however, the managerial role of principals and teachers has not been maximized in using learning via google classroom in improving student learning achievement, especially in the context of mathematics lessons. This phenomenon also applies to elementary schools in Wonogiri Regency, namely SD Negeri 2 Kepyar which also applies to online learning programs. For this reason, researchers conducted a study on the Influence of Principals and Teachers on Improving the Mathematics Achievement of Elementary School Students with Google Classroom by using a phenomenological study approach. What is the effect of principals and teachers on

improving elementary school students' mathematics achievement with Google Classroom? This study aims to measure the extent of the influence of principals and teachers on improving elementary school students' mathematics achievement with google classroom.

## 2. METHODS

This research approach is descriptive qualitative where research is carried out directly, intensively, in detail, and in-depth to an organization, institution, or certain phenomenon and by observing objects (activities or events) that are studied in depth. That is, research is only carried out on one target and studied in depth (Nisa, 2016). The author uses a qualitative descriptive research method. Where data was collected from various informants, namely principals, teachers, parents, and also upper-class students at SDN 2 Kepyar, Purwanto sub-district regarding the effectiveness of using devices with managerial principals and teachers in improving online mathematics learning outcomes. This is due to the application of qualitative methods. In addition, all that is collected is likely to be the key to this research. This research includes a qualitative descriptive study that was conducted to obtain a complete and in-depth analysis of the social phenomena of the managerial role of school principals and teacher performance on the use of Google Classroom in Improving Mathematics Learning Achievement in Elementary School Students.

The research subjects were 1 principal, 5 teachers, and high school students at SDN 2 Kepyar, namely in grade 4 with 11 children, and in grade 5 with 12 children, and grade 6 with 13 students. children, students who became respondents were taken by 2 students in each class, and the number of research subjects was 36 students. This research was conducted at SDN 2 Kepyar, Purwanto District, Wonogiri Regency, Central Java Province. The time of the study was carried out for four months, namely from September to December 2021.

**Table 1.** *Research Respondent Profile*

<b>Initials</b>	<b>Gender</b>	<b>Education</b>
R1	Male	Bachelor
R2	Male	Bachelor
R3	Male	Bachelor
R4	Male	Bachelor
R5	Male	Bachelor
R6	Female	Bachelor
R7	Male	Fourth-grader
R8	Female	Fourth-grader
R9	Male	Fifth-grader
R10	Female	fifth-grader
R11	Male	Sixth-grader
R12	Female	Sixth-grader

This study uses a qualitative descriptive approach. Moleong (2011) mentions research qualitative as a research procedure whose results are in the form of descriptive data consisting of written or spoken words of the subjects observed, the method used is dominant in searching data/information until it is felt able to interpret. Then Iskandar (2012) said that qualitative research is research whose elements are the phenomenological paradigm of what is understood by the research subject (Ernaliza, Fitria, & Fitiani, 2020)

The use of materials and instruments in this study includes interview guides, questionnaires or questionnaires, stationery, recording equipment, and documents or literature. The researcher will give his subjective view of the research focus. In other words, from all the data collected, the researcher will draw conclusions based on a personal perspective. Interview guide because researchers use interviews

as a method of data collection, researchers need to develop an interview guide or interview guide that is used to facilitate the interview process. This questionnaire is almost the same as the interview but the questionnaire does not bring together directly between the respondent and the researcher. This questionnaire has the role to connect researchers and respondents so that it can be said to be a research tool or research instrument. This stationery works on unforgettable moments. Researchers should always carry their notebooks and pens with them at all times when making observations. Recording tools are also the same as writing instruments, where their function is to record unexpected events. Recording tools can also be used to record planned events such as experiments or interviews. Documents or literature related to the research focus as a comparison material or explore what is being researched.

The data collected by the researchers were observation, interviews, and documentation. In using the observation method, the most effective way is to complete it with an observation format or a blank as the instrument. The compiled format contains items about events or behaviors that describe what will happen. The scientific method of observation (observation) is defined as the systematic recording of observations of the phenomena being investigated. In this study, the observation method was used to collect data, among others, by observing the condition of students using Google Classroom in online mathematics learning. Pay attention to the principal who is supervising the teacher in carrying out online mathematics learning. Observing the activities of teachers who are carrying out online mathematics learning. Observations were carried out directly to get a complete picture of the research focus. The results of observations are compiled in field notes. The contents of the field notes consist of routine events, temporal events, interactions, and their interpretations. In this case, the researcher made direct observations, namely making observations at SDN 2 Kepyar to see the effectiveness of using google classroom, managerial principals, and teacher and student performance in improving online mathematics learning outcomes.

For data collection, conversational interviews were carried out by two parties, namely the interviewer who asked the question and the interviewee who provided the answer to the question. Interviews were conducted through dialogue and question and answer with principals, teachers, parents, and also students who use google classroom in online mathematics learning directly at SDN 2 Kepyar. The results of the interviews are then outlined in a summary structure, which begins with a brief description of the identity, description of the situation or context, the identity of the problem, description of the data, and unitization and ends with the emergence of a theme. Documentation is looking for data about things or variables in the form of notes, transcripts, books, meeting minutes, agendas, and so on. Compared to other methods, this method is somewhat less difficult, in the sense that if there is an error the data source is still the same, unchanged. With the documentation method, what is observed is not living things but inanimate objects.

Meanwhile, the data collection with the researcher's documentation looked at the documents at SDN 2 Kepyar. Experts always interpret documents in two senses, namely: first, written sources for historical information as opposed to oral testimonies, artifacts, paintings, and others. Second, it is intended for official letters and state documents such as agreements, laws, grants, concessions, and others. In this case, the researcher conducted research on documents at SDN 2 Kepyar that were related to the online teaching and learning process for mathematics subjects such as documents in the form of books related to the problem being studied where this was the main source used by researchers, in addition to the results of the research. relevant to the research focus.

### 3. FINDINGS AND DISCUSSION

In the Study of the Managerial Role of Principals and Teacher Performance on the Use of Google Classroom in Improving Mathematics Learning Achievement in Elementary School Students at SDN 2 Kepyar, several factors can improve student learning achievement in mathematics at SDN 2 Kepyar, namely (1) the managerial role of the principal at SDN 2 Kepyar, (2) teacher performance at SDN 2

Keyyar, (3) principal managerial roles and teacher performance in learning mathematics with the google classroom application.

**Table 2.** *Managerial Role of Principals and Teacher Performance on the Use of Google Classroom*

Principal Managerial Role and Teacher Performance	Respondent											
	1	2	3	4	5	6	7	8	9	10	11	12
The Managerial Role of the Principal at SDN 2 Keyyar		√		√		√		√	√			√
Teacher Performance at SDN 2 Keyyar		√						√	√	√	√	√
Improving Mathematics Learning Achievement of SDN 2 Keyyar Students		√		√	√		√		√		√	√

### The Managerial Role of the Principal at SDN 2 Keyyar

Several respondents stated that the effective managerial role of the principal at SDN 2 Keyyar will affect increasing student achievement, especially in mathematics when using the Google Classroom application. The results of interviews regarding this motive are presented as follows

...The managerial role of a good principal will make teachers motivated in their teaching spirit so that online learning using Google Classroom will run optimally. (R2)

... With a good principal managerial role will make good learning too ... (R4 ... Teachers will be more enthusiastic about teaching if they are guided by school principals who have good managerial skills. (R6)

... The principal provides direction and guidance to students in online learning using Google Classroom. (R8)

... The principal proposed internet quota assistance to the Ministry of Education and Culture to facilitate student access during online learning using Google Classroom. (R9)

... The principal always monitors students during online learning. (R12)

The interview transcript above shows that six of the twelve respondents stated that the effective managerial role of the principal will make the teacher maximal in the process of teaching and learning activities during online learning using google classroom. The good managerial role of the principal will make it easier for students to follow online learning through Google Classroom.

The managerial ability of the principal is a component to ensure that students have the opportunity to receive a good education. They form a vision of improving the quality of students; establish child-friendly education; form a leadership spirit to others so that teachers and stakeholders feel empowered to participate in the success of the school's vision; as an initiator in improving the quality of education, and managing the organization and infrastructure for school improvement. Since the beginning of the Covid-19 pandemic, many problems have arisen in education, it takes a good managerial role for school principals for teaching and learning activities with Google Classroom. The principal is responsible for the quality of the school and the success of improving student achievement (Levin, Leung, Edgerton, & Scott, 2020).

From the results of the interview above, it was found that the principal of SD Negeri 2 Keyyar has been able to apply his managerial skills well, with the maximum managerial ability of the principal having an impact on good teacher performance so that the teaching and learning process at SD Negeri 2 Keyyar goes well. This makes students able to take part in learning via google classroom easily and as a result, learning achievement, especially in the context of mathematics lessons, increases. This is by research conducted at SD Negeri 1 Panembahan that the managerial ability of the principal is the dominant factor that supports schools in improving school quality.

### ***Teacher Performance at SDN 2 Kepyar***

Some respondents said that good teacher performance at SDN 2 Kepyar will affect increasing student achievement, especially in mathematics when using the Google Classroom application. The results of the interviews regarding this matter are described in the following interview transcript.

... Teachers provide maximum service to students when learning mathematics online using google classroom, teachers provide creative and innovative digital-based learning. (R1)

...Learning math through Google Classroom is served by playing quizzes. Learning while playing makes learning fun... (R7)

...In learning mathematics through google classroom, interesting videos related to mathematics are also presented so that learning is easier to understand... (R8)

...The teacher is very creative in filling learning through google classroom, I am very happy... (R9)

...Learning to use PPT in google classroom is very easy to understand... (R10)

...With learning videos presented through google classroom, math lessons are fun and easy to understand... (R11)

...The teacher presents learning with PPT which is presented through google classroom. The PPT presented is very creative so that the lesson can be well received by students, after finishing the presentation students are given practice questions related to the material that has been delivered. (R12)

The interview transcript above shows that seven out of twelve respondents stated that in carrying out their performance as a teacher in learning mathematics through Google Classroom the teacher was very creative and innovative, and learning took place very pleasantly. With the presentation of PPT and interesting learning videos, learning is easy for students to understand.

The success or failure of student learning achievement is determined by the performance of a good teacher. For this reason, a highly dedicated and qualified teacher is needed in educating and teaching students. With good teacher performance, it will produce a generation that excels. So that it will form a generation that is qualified, intelligent, and able to compete with other countries. Teachers are responsible for the success of their students in achieving high achievements. The success or failure of the quality of education cannot be separated from the performance of good teachers. Good teacher performance is determined by how the teacher plans, implements, evaluates, and also applies high discipline in learning (Purwanto et al., 2020).

From the results of the interviews above, it was obtained data that the performance of SD Negeri 2 Kepyar teachers in learning mathematics through Google Classroom was very good. Teachers are very creative and innovative, learning is very fun. With the presentation of PPT and interesting learning videos, learning is easily understood by students so student learning achievement becomes better. This is by research conducted at MI Yaspi Connect Java Makassar that an increase in student achievement will be realized with good teacher performance.

### ***Managerial Roles of Principals and Teacher Performance With Google Classroom in Mathematics Learning With the Google Classroom Application Heading 3: use this style for level three headings***

Several respondents stated that with the managerial role of the principal and good teacher performance, they could improve the mathematics learning achievement of SDN 2 Kepyar students during online learning by using google classroom.

...With the creativity of teachers, students' achievement, especially in mathematics, increases. This can be seen from every evaluation given to students and student learning outcomes, both in daily assessments and mid-semester assessments. (R1)

...The principal always gives direction to the teacher, making it easier for teachers to carry out online learning through Google Classroom so that the results are better. (R3)

...Holding work meetings twice a week to evaluate online learning through google classroom so that deficiencies can be corrected....(R4)

...The principal provides good facilities for teachers by seeking to improve the school internet to facilitate teacher access to teaching and learning activities through google classroom so that learning runs optimally. (R6)

...learning math online with the fun google classroom made my math grades better... (R8)

...My math scores improved after participating in creative online learning through google classroom, learning was presented with fun videos so I became happy with math lessons... (R10)

... The principal and the teacher always provide direction and guidance to me about learning through google classroom so that my grades, especially math lessons, increase. (R11)

Based on interviews with twelve respondents, seven respondents stated that the mathematics learning achievement of SDN 2 Kepyar students increased. The principal said that with the creativity of teachers, student achievement, especially in mathematics, increased. This can be seen from every evaluation given to students and student learning outcomes, both in daily assessments and mid-semester assessments.

Learning achievement is the result of the learning process, several factors influence the success or failure of students in achieving learning achievement determined by several of these factors. To create a great future generation, teacher performance becomes the most dominant thing because teachers are responsible for the process of producing superior Indonesian people. Because of this, a teacher who is not only highly educated and broad-minded is needed but also has competence (Simamora, Harapan, & Kesumawati, 2020).

Student achievement can be obtained with high student literacy, one of which is reading. Low literacy will lead to low student achievement. The desire to be active in student literacy, especially reading, can be grown with the awareness and enthusiasm of each student in the hope of being able to achieve their goals in the future (Widodo, 2020).

From the results of the interviews above, it was obtained data that the principal of SD Negeri 2 Kepyar always provides direction to teachers, making it easier for teachers to carry out online learning through Google Classroom so that the results are better. Work meetings are held twice a week to evaluate online learning through Google Classroom so that deficiencies can be corrected. The principal also provides good facilities for teachers by seeking to improve the school internet to facilitate teacher access to teaching and learning activities through Google Classroom, so that online learning through Google Classroom runs optimally.

Some students said that learning mathematics online through a fun google classroom made students' math scores better, math scores increased after participating in creative online learning through google classroom, and learning was presented with fun videos of students with math lessons. Principals and teachers always provide direction and guidance to students about learning through google classroom so that students' grades, especially in mathematics, increase. This is relevant to previous research conducted by M Marwati at SDN Sandana, Galang District, Tolitoli Regency. That the influence of the managerial role of the principal to improve teacher performance cannot be separated from the function of the principal in terms of planning, forming an organization, good management, good leadership, maximum supervision, routine coaching through teachers, setting an example in work motivation, so that performance teachers can be maximized, with good teacher performance is expected to improve student achievement.

#### 4. CONCLUSION

Based on interviews conducted with twelve respondents from SDN 2 Kepyar, Purwanto District, Wonogiri Regency, it can be said that (1) Learning through the Google Classroom application is an effective learning medium, (2) In the Google Classroom application, class teachers can still deliver learning well and easily accessible by students, namely by providing materials, assignments, and even filling out student attendance lists online every day, (3) the managerial role of principals and good teacher performance in learning mathematics with the google classroom application can improve student achievement. Based on these conclusions, the managerial role and good teacher performance

with the google classroom application in learning mathematics can improve student achievement. Its relevance to Learning is highly recommended as bold learning. This is by the current government program, namely Information-Based Learning, technology, and digitization. This program is to prepare highly intellectual students.

**Acknowledgments:** I would like to thank all parties, especially the principal and teachers of SDN 2 Keyyar for the time and opportunity given to me to research so that I can compile this article.

**Conflicts of Interest:** I compiled this article to be published in national and international journals as a requirement to take my thesis exam.

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