

Learning independence and teacher teaching skills: Does it affect learning outcomes when face-to-face learning is limited?

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ABSTRACT

Limited face-to-face learning is a learning policy implemented by schools to prevent coronavirus transmission during the pandemic. Amidst face-to-face learning has become limited, so that it requires students to study more independently from home. Teachers are also required to maximize class time and are also required to be skilled in providing learning outside of student learning hours in class. This study aims to determine (1) the influence of student learning independence on learning outcomes, (2) the influence of teachers' teaching skills on learning outcomes, and (3) the influence of student learning independence and teacher teaching skills during limited face-to-face learning on student learning outcomes. The research method used is quantitative with a correlational approach. This research was conducted at SMK throughout Sleman Regency. Respondents were 26 schools with a total of 2209 students. The sample calculation used Slovin with 339 samples. Data collection using questionnaires and tests with the help of google forms. The data obtained were then analyzed with several techniques such as description analysis; normality, homogeneity, multicollinearity tests; and hypothesis tests consisting of simple regression tests and multiple regression tests. The study's results obtained 1.) Learning outcomes were positively and significantly influenced by student learning independence with a value of sig. $0.023 < 0.05$; 2.) Learning outcomes are positively and significantly influenced by the teaching skills of teachers with sig grades. $0.000 < 0.05$; and 3.) Learning outcomes are also positively and significantly influenced by student learning independence and teacher teaching skills with a value of sig. $0.000 < 0.05$.



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INTRODUCTION

The spread of the coronavirus throughout the world until now has not been wholly completed. Even in some countries, there is still an increase in the number of humans infected with the virus. The coronavirus has infected many sectors due to social and physical distancing, including the education sector (Kim, 2020). According to Hossain et al. (2021), in Bangladesh, 60% of students experience fears of experiencing delays in academics, and students will experience stress. The implementation of online learning in Indonesia is still not running effectively (Baety & Munandar, 2021; Simamora, 2020; Yunus et al., 2021). In addition, it was stated that 63% of respondents stated that full online learning could not be carried out effectively (Haning, 2016). As a result, the learning results obtained by students have not been achieved optimally.

According to the results of an evaluation by the [Directorate of Junior High School Republic of Indonesia \(2022\)](#), there has been a decrease in learning outcomes due to online learning. The Indonesian government is trying to continue to overcome the problems of education caused by the Covid-19 pandemic by issuing policies related to education. Along with controlling the number of viruses spread in Indonesia, the Ministry of Education and Culture of the Republic of Indonesia issued a joint decree of four ministers (SKB) containing the implementation of limited face-to-face learning.

Sleman Regency implements limited face-to-face learning, which is then abbreviated (PTMT) starting in the first semester of the 2021/2022 school year ([Sleman Regency Education Office, 2022](#)). Seeing the spread of the Covid-19 virus in Sleman Regency is at level two, and the number of school residents who have had the second vaccine is 50%-79%, then based on the decree of the four Ministers, learning runs with 50% of the total number of students and a maximum of 6 hours of lessons every day ([Anjany, 2021](#)). Based on this data, learning in schools can be carried out longer than online learning at home, but in certain conditions learning is still often carried out at home, considering that the allowed capacity is only 50% of the capacity of students who can study at school. The Minister of Communication and Informatics of the Republic of Indonesia, Johnny G. Plate, quoted from [Putri \(2021\)](#), said that the implementation of PTMT, one of which aims to avoid a decrease in student learning outcomes and face-to-face learning in the classroom, will achieve better student learning outcomes than being carried out fully online.

However, the opposite is true during PTMT, and student learning outcomes are still not optimal. The results of temporary observations at SMK Muhammadiyah Melati, SMK Negeri 1 Cangkringan, and SMK Muhammadiyah Cangkringan stated that students' learning independence still needs to be improved, judging from the lack of enthusiasm of students during online study hours using Google Classroom or zoom. Students' assignments that are done at home yang collect on time, no more than 20% of the number of classes, and the tendency of students to study independently at home are still very lacking. A similar study by [Hidayat et al. \(2020\)](#) stated that the level of independence of students' learning is still low. This is because students do not have an online learning culture.

Learning independence is closely related to teacher teaching skills during the PTMT period, in line with the results of research conducted by [Hardianti \(2019\)](#), which states that there is an influence on student learning independence, and teacher teaching skills simultaneously affect student learning outcomes. This is in line with [Harmaini \(2019\)](#) opinion stated that there are still many teachers accustomed to using old learning patterns, so students' learning independence has not been formed properly. Based on this opinion, it can be understood that for students to be independent in learning, the teacher needs to use patterns or methods that are in accordance with current conditions.

Based on the results of observations at several vocational schools in Sleman Regency, in addition to the independence of student learning, which still needs to be improved, teacher teaching skills are still lacking, such as teaching skills, the use of technology, the use of methods, media, and the selection of materials that must be adjusted to limited face-to-face learning. This condition causes student learning outcomes not to reach the minimum standards that the teacher has determined. [Rabiatun \(2021\)](#) mentioned that the teacher's skills impact student learning outcomes in line with these observations. It is also strengthened by the results of research conducted by [Theodora \(2013\)](#) that there is a significant influence between teachers with high and low skills on student learning outcomes.

Based on the explanation that has been presented, the application of the face-to-face learning policy is limited in terms of student learning independence and teacher teaching skills which should be expected to influence student learning outcomes, but the observation results were found to be the opposite. So this study will examine whether the application of limited face-to-face learning with student learning independence and teacher teaching skills that exist today will affect student learning outcomes. It is also necessary to research whether student learning independence and teacher teaching skills in vocational schools throughout Sleman Regency in the implementation of limited face-to-face learning policies can affect student learning outcomes. The result of the research is expected to be used as a solution or evaluation in the world of education.

RESEARCH METHOD

The type of research used in this study is ex-post facto with a correlational approach, which is also part of quantitative research. This type of research is used to know the influence between one or more free variables on one or more fixed variables. This research was conducted in 26 vocational schools throughout Sleman Regency, especially Jautomotive affairs, consisting of 3 state schools and 23 private schools. The length of time used in this study was six months, from July 2021 until December 2021. A total of 2209 class X students are in Sleman County as a population. The sample used was 339 students. Sample calculations use the approach developed by Slovin (Sipayung & Gunawan, 2013).

The variables used in this study are the independent variable which consists of variables of student learning independence and teacher teaching skills. In contrast, the dependent variable consists of student learning outcomes. The data collection techniques used in each variable are questionnaires and multiple-choice tests to measure student learning outcomes. The next step is data triangulation by interviewing each stakeholder in the school where the research occurs. The purpose of data triangulation in this study is to confirm and strengthen the data obtained, which will then be used as research results. The three instruments on each variable were then tested for validity by experts, and a constructed test was conducted with a sample of 25 students using product moment calculations. The trial results can be seen in Table 1, and the reliability test concluded that each instrument has very high reliability.

Table 1. Instrument of Validity Test

Variable Instruments	Valid	Invalid
Teacher teaching skills	27	5
Student Learning Independence	16	4
Learning Outcomes	20	5

The data analysis technique consists of three stages, namely: (1) descriptive analysis consisting of the calculation of the mean, mode, median, and standard deviation, (2) prerequisite tests consisting of normality, homogeneity, and multicollinearity tests, and (3) test hypotheses using a simple regression test used to test between one variable and another, and a double regression test is used to test between more than one variable with one or more variables (Gunawan, 2020).

RESULT AND DISCUSSION

Data Description

The data that has been collected is first carried out with a description of the data with the help of SPSS (statistical package for the social sciences) software version 16. Data analysis on student learning independence variables was obtained and described as follows: the smallest answer was 29, the largest answer was 62, the average score of 43.2, the median by 35, the mode by 35, and the standard deviation by 6.1. The variable frequency distribution of student learning independence can be seen in Figure 1.

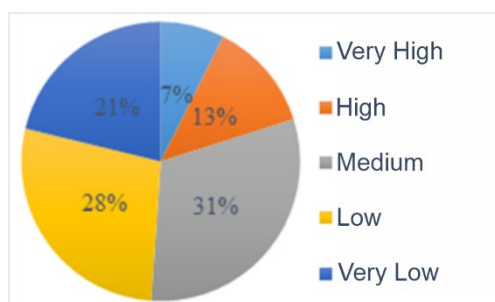


Figure 1. Frequency Distribution of Teacher Teaching Skills

Based on Figure 1, the most data frequency distribution is on the medium criteria, with a total of 31%. It can be explained that the data obtained from the variables of the most teaching skills exist in the medium category. Data analysis on the variables of teacher teaching skills was obtained and described as follows: the lowest answer is 62, the largest answer is 104, the average score is 82.8, the median is 83, the mode is 84, the standard deviation by 8.4. The variable frequency distribution of teacher teaching skills can be seen in Figure 2.

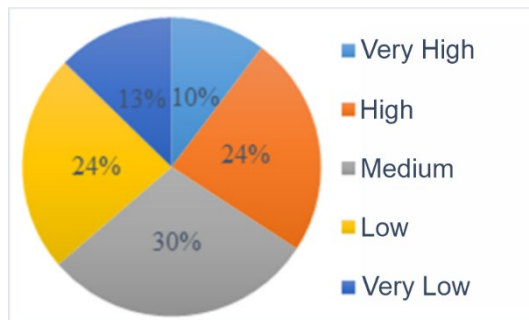


Figure 2. Frequency Distribution of Student Learning Independence

Based on Figure 2, most data frequency distributions are on medium criteria with a total of 30%. These results illustrate that the data obtained from most student independence variables are in the moderate category. Data analysis on student learning outcome variables was obtained and described as follows: the lowest answer is 35, the largest answer is 90, the average score is 69.2, the median is 70, the mode is 75, and the standard deviation by 11.2. The variable frequency distribution of student learning outcomes can be seen in Figure 3.

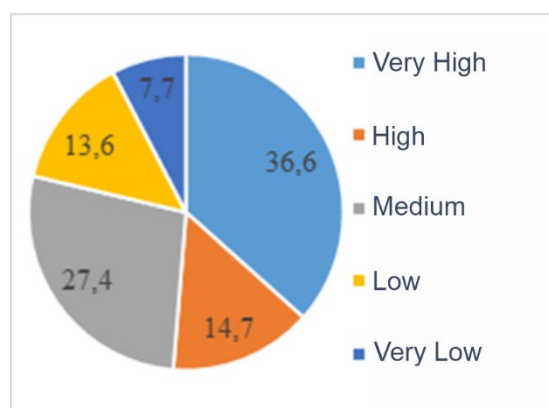


Figure 3. Frequency Distribution of Learning Outcomes

Based on Figure 3, most data frequency distributions are based on very high criteria, with a total of 36.6%. This means that the data obtained from the variables of student learning outcomes is very high.

Test Analysis Prerequisites

Then after the data description was carried out, an instrument prerequisite test consisting of three tests was carried out, the analysis using the help of SPSS software version 16 tests including 1.) Normality test using Kolmogorov-Smirnov formula, the results of the analysis obtained values of sig. $0.110 > 0.05$ based on the obtained figures can be concluded that the data have a normal distribution; 2.) The linearity test between student learning independence variables and student learning outcomes obtained a value of $0.290 > 0.05$ which means that the data has a linear relationship. A linear test is also carried out between variables the teacher's teaching skills on student learning outcomes obtained a score of 0.189 which means that the data has a linear relationship; and

3.) The data multicollinearity test was tested between student learning independence variables on student learning outcomes, the analysis was carried out using tolerance obtained a value of $0.161 > 0.10$ and while the VIF value was obtained by a value of $1.624 < 10.0$ based on data it can be concluded that the multicollinearity test does not occur multicollinearity, the test between the variables of the teacher's teaching skills to student learning outcomes, the analysis carried out using tolerance obtained a value of $0.538 > 0.10$ and while the VIF value obtained a value of $1.86 < 10.0$ based on these data it can be concluded that the multicollinearity test does not occur multicollinearity.

Hypothesis Test

Considering that the instrument analysis requirements have all been met, the data are tested for hypotheses with the help of SPSS version 16 software, and decision-making is seen from the sig. value compared to a significant level of 5%. There are three hypotheses in this study.

The first hypothesis of the analysis between the variables of student learning independence towards student learning outcomes obtained a value of sig. $0.023 < 0.05$ and a regression coefficient value of 0.234 based on these values can be concluded that there was a positive and significant influence between student learning independence and student learning outcomes at SMK in Sleman during the implementation of limited face-to-face learning. The results of in-depth interviews with several SMK teachers throughout Sleman Regency stated that there is an influence on student learning outcomes. It's just that there is still a need to increase student learning independence. Compared to fully online learning conditions, learning during a pandemic slowly increases student independence and learning outcomes.

The second hypothesis of the analysis between the variables of the teacher's teaching skills to student learning outcomes obtained a value of sig. $0.00 < 0.05$, and the value of the regression coefficient obtained a value of 0.295 based on the value obtained. It can be concluded that there is a positive and significant influence between the teaching skills of teachers and the learning outcomes of students in SMK throughout Sleman Regency during the application of face-to-face learning limited face. The results of in-depth interviews with SMK teachers throughout Sleman Regency stated that the role of teachers in the learning process during face-to-face learning is limited, the better the teacher's teaching skills in adapting to a time when face-to-face learning is limited, the influence on learning outcomes is also getting better, skills that need to be adapted include teachers must be skilled in transferring the right methods, media, materials so that they can be taught by students considering the limited face-to-face time applied in vocational schools throughout Sleman Regency and the importance of teachers mastering technology to make up for the lack of study hours in schools.

The third hypothesis of the analysis between student learning independence and teacher teaching skills on student learning outcomes in SMK throughout Sleman Regency obtained a value of sig. $0.00 < 0.05$ based on the value of positive and significant influence on student learning outcomes in vocational schools throughout Sleman Regency during the implementation of PTMT. In line with the analysis, in-depth interviews with SMK teachers throughout Sleman Regency stated that the influence of these two variables was very pronounced. If you look at the independence of student learning, it still needs improvement and encouragement from teachers so that students can independently learn online. So, in this case, it is also necessary to teach teachers so that limited face-to-face time can be maximized, and teachers can provide motivation and enthusiasm for teachers to continue increasing student learning independence. The synergy between student independence and learning skills can be built, ultimately affecting student learning outcomes.

CONCLUSION

Based on the results of data analysis that has been carried out, which is strengthened by in-depth interviews, it is concluded that there is a positive and significant influence between student learning independence on learning outcomes and values (signification $0.023 < 0.05$) in line with the analysis the results of the interview also showed something similar, then there was a positive and significant influence between the teacher's teaching skills on student learning outcomes with a sig value (signification of $0.000 < 0.05$) in line with the interview results, only for now the skills of

teachers need adaptation and improvement on the use of supporting technologies. There is a positive and significant influence between the teaching skills of teachers and the independence of student learning together on student learning outcomes on metal base formation materials in vocational schools throughout Sleman Regency, indicated by grades (signification of $0.000 < 0.05$). This is also similar to the results of interviews, which state that students' learning independence can increase due to the support of good teacher teaching skills to support the maximum achievement of learning outcomes.

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