

Work Environment and Work Productivity of Elementary School Teachers at COVID-19 Pandemic

Wa Ode Zusnita Muizu, Imas Soemaryani, Dara Sagita Triski

Padjajaran University, Bandung, Indonesia

E-mail: dara20002@mail.unpad.ac.id

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Abstract: The Indonesian government implemented an online work environment in an educational institution to prevent the spread of COVID-19, particularly by suspending school/university activities, School organizations' productivity is strongly influenced by the productivity of teachers' work. The long process of implementing online learning during the pandemic may have impacted the teachers at Integrated Islamic Elementary Schools in terms of productivity. In the 2020 academic year, there was a decline in teacher work productivity of 70-75%, as measured by the effectiveness and efficiency of teachers' abilities. The purpose of this study was to determine the impact of the work environment on teacher productivity. A total of 138 people were included in this study. Surveys, interviews, and questionnaires are all used to collect data. Meanwhile, data processing and analysis were performed using a simple linear regression method. According to the coefficient of determination test, the R-square is 0.65, indicating that changes in the teacher's work environment have a 65% effect on the teacher's work productivity, with the rest influenced by other variables. The results of the research are the work environment has a positive effect on teacher work productivity.

Keywords: COVID-19 pandemic, online work environment, teacher's work productivity

INTRODUCTION

The teacher is a central figure in formal education, as the teacher performs as an exemplary figure and even a self-identification figure for students. Increased intelligence and potential development of students are possible when the work environment is supportive and the teacher's productivity is high. A school or organization's success is influenced by two primary factors: human resources (teachers or workers) and supporting facilities Nigg & Geller (2012). To ensure that learning is implemented effectively, teachers must be highly productive. However, in early 2020, a panic occurred when the COVID-19 pandemic spread over the world, limiting human activities.

The Indonesian government has taken several steps and made significant efforts to limit the spread of the COVID-19 by issuing policies requiring people to limit their activities outside the home, including school/ university (school from home), work from home (work from home), and even worship at home. Numerous countries around the world that have been exposed to COVID-19 have also implemented lockdown and quarantine regulations in an attempt to minimize interactions between large numbers of people who could accelerate the spread of the coronavirus.

Changes in the work environment during the pandemic posed several challenges for teachers, including limited teaching space and equipment when the teaching and learning process was conducted at home, poor lighting in the room, a teacher's living environment that was quite densely populated which resulted in noise, and internet signal interference from both the provider and the teacher's living environment, Ismail Sitompul et al., (2019).

Several strategies teachers use to overcome these challenges to changing the work environment and ensuring the teaching and learning process continues to function effectively include the use of

more than one computer or device to maintain a stable internet connection. Additionally, teachers can enhance lighting using a ring light. Moreover, the issue with the changes in the work environments as perceived by teachers is that some teachers are unable to operate learning media devices effectively due to limited space for direct communication and coordination with colleagues, and teachers' limitations in explaining the subject matter to students, whereas the material is quite difficult if explained virtually. With all of the given constraints, the teacher assembly continues to strive to carry out the teaching and learning process ideally based on the indications of the mentioned problems, Hafee et al., (2019).

School organizations' productivity is heavily influenced by the productivity of teachers' work. School organizations' productivity is heavily influenced by the productivity of teachers' work. Therefore, the principal's priority as the organization's leader must be the teacher's productivity, as both high and low teacher productivity might affect the school organization's overall objective achievement. The potential of a teacher must be maximized, as Khan & Abdullah (2019) information, attitude, and conduct. With the ever-growing need for a modern education system, the education industry has to become more techno-savvy, dynamic, and updated. There is always the requirement for skillful and talented manpower to take up this education industry to the heights of international standards. The primary objective of this research paper is to investigate the impact of staff training and development on their productivity and performance in classroom teaching and their administrative work as well. It can also be viewed as their overall productivity. The data collected was through a structured questionnaire. 58 teachers were interviewed through the questionnaire. Statistical Software (SPSS Version 16 proposed that teacher work productivity is the potential or power generated by persons (teachers) that are efficiently utilized to generate more creative outputs, generative outputs, and profits or advantages.

According to Collewet & Sauermann (2017), in addition to internal factors such as a teacher's or educator's mental attitude, education, skills, and health and nutrition, teacher work productivity must also be supported by external factors such as positive work atmosphere, social security, salary, the quality of learning facilities, technology, and possibilities for achievement all contribute to this.

The long process of adapting to online learning has an influence on the teachers' productivity at Nurul Islam, Cahaya Ilmu, and Al-Iman Integrated Islamic Elementary Schools. Table 1 shows the average work productivity of teachers in each school.

Table 1. Work Productivity of the Teachers in the Integrated Islamic Elementary Schools

Teacher Work Productivity Indicators	Nurul Islam		Cahaya Ilmu		Al-Iman	
	Score (Academic Year)		Score (Academic Year)		Score (Academic Year)	
	2019/2020	2020/2021	2019/2020	2020/2021	2019/2020	2020/2021
Teacher's Ability	93	76	90	71	91	76
Teacher Skills	88	70	85	68	85	70
Total Score	90.3	73.2	87.3	69.5	88	72.8
Percentage (%)	90	73	87	70	88	73
Category	Excellent	Good	Excellent	Good	Excellent	Good

Source: Report on the results of the teacher performances (processed data)

According to Table 1, during the 2020/2021 academic year, the factors that contribute to teacher work productivity, based on the dimensions of teachers' effectiveness and efficiency, is that not all teachers understand and can effectively apply various features and technologies from the device or learning media. The output of developing learning tools is absent because the teacher does not create teaching aids that assist in the learning process. Additionally, achievement of targets relating to time and quality dropped, for example, student learning outcomes via homework and daily worship reports collected outside of scheduled hours and poorly documented. Teacher work productivity declines in the teacher skills indicator because some teachers do not take on additional responsibilities as coaches for extracurricular activities, resulting in the absence of activity reports.

The next factor affecting the decrease in teacher performance assessment results is the school's declining average score. Productive teachers must be accountable for providing high-quality teaching,

with the quality of teaching serving as an indicator of quality improvements, such as learning outcomes or school average scores. Final semester assessment results for students declined by 1-2% compared to the previous school year. The examination system that allows teachers to assess learning outcomes is considered ineffective and inefficient, which is one of the factors contributing to the decline in the average score, even though the school enforces this exam system's freedom to make it easier for teachers to assess learning outcomes. As an evaluation tool, the foundation and school will use the same exam system for all courses in the 2021/2022 school year, allowing the school's average score to increase again.

Given the issues raised above and the critical role of teachers in education, it would be important in conducting further research to examine the effect of work environment on the work productivity of teachers at Nurul Islam Integrated Islamic Elementary School in East Jakarta, Cahaya Ilmu Integrated Islamic Elementary School in East Jakarta, and Al-Iman Integrated Islamic Elementary School in Bekasi City.

METHOD

The research hypothesis are:

H_0 : There is no effect between work environment (X) on teacher work productivity (Y)

H_1 : There is an effect between work environment (X) on teacher work productivity (Y)

This study applied a quantitative approach combined with a descriptive verification technique to identify the direct relationship between research variables, test the theories using numbers, and verify the hypothesis. Three Integrated Islamic Elementary Schools in the Duren Sawit District, East Jakarta City, and Bintara Jaya (Bekasi City) were studied for this research.

The population in this study was Integrated Islamic Elementary School instructors from the three schools, and the saturated sample approach was used, as shown in Table 2. Table 2 shows the details of each sample.

Table 2. Total Number of Teachers

No.	School	Total
1.	Nurul Islam	43
2.	Cahaya Ilmu	38
3.	Al-Iman	56
4.	Total	137

Source: Data Collection, 2022

Direct observation of the research object was used as the major data collection method in this study, followed by direct interviews with the Principal and Teachers, and the distribution of questionnaires containing a set of questions relating to the research topic. Secondary data is gleaned from literature reviews and material gleaned from records, reports, and other papers about the issues under investigation. The data collection process involved conducting a survey and digitally delivering questionnaires to respondents via Google Forms. Techniques for data processing The data was processed using SPSS software version 27.0 and data analysis was done using the simple linear regression method after the questionnaires were distributed.

RESULT

The sampling technique used in this study was a census method, which treats the entire population as the sample. According to the questionnaires distributed to 138 respondents, 2 questionnaires were not filled and 7 questionnaires were incompletely filled, respectively. As a result, the total number of questionnaires that can be processed was 129, indicating a percentage of 93.49%.

Table 3 describes respondents' answers to the change in the work environment variable (X).

Employing a Likert scale with values ranging from 1 to 5, meaning very unpleasant (VU), uncomfortable (U), quite comfortable (QC), comfortable (C), and very comfortable (VC), a questionnaire on the work environment variable was created.

Table 3. Description of Respondents' Answers to Work Environment Variables (X)

Changes in Work Environment	Respondent's Answer (Person)					Average	Percentage (%)	Category
	VU	U	QC	C	VC			
The workplace is suitable and comfortable for the online teaching and learning process	5	87	14	21	2	2.44	48.84	Low
The tables and chairs that are used during the online teaching and learning process are suitable and up to standard.	10	94	9	15	1	2.25	44.96	Low
During the teaching and learning process, room lighting (from sunlight/lamps) gives comfort.	2	82	31	12	2	2.46	49.15	Low
The reflection of light in the workspace is sufficient and provides comfort during the online teaching and learning process	4	81	31	13	0	2.41	48.22	Low
The sound from the environment is nice and does not produce noise.	2	81	31	13	2	2.47	49.46	Low
The workplace's air ventilation is adequate and comfortable.	6	82	26	15	0	2.39	49.61	Low
The workspace's humidity level supports comfort during the online teaching and learning process.	6	67	44	12	0	2.48	49.61	Low
The internet connection is stable, and there are no issues encountered during the learning process.	12	73	36	8	0	2.31	46.20	Low
I can collaborate with coworkers remotely.	37	69	16	7	0	1.95	39.81	Low
I can engage students in online interactions during the teaching and learning process.	38	66	18	7	0	1.95	39.07	Low

Source: Data Processing, 2022

According to Table 2, the variable of the online work environment has an average score of 2.31, which is within the range of 1.95 to 2.48, indicating that it fits the "Uncomfortable (U)" criteria. The average percentage of all respondents is 46.22%, which qualifies as "Low." However, with an average score of 2.48 for all of these variables, the humidity of the workspace (X7) can be concluded to be quite comfortable for teachers during the online teaching and learning process.

With a percentage of 39.07%, the lowest score for the work environment is collaborating with colleagues remotely (X₉) and interacting with students online (X₁₀). This suggests that the majority of teachers are unable to adjust to changes in the social-psychological work environment associated with online teaching and learning.

All indicators of change in work environment variables are in the "Low" range, indicating that the work environment at pandemic COVID-19 have a significant impact on teachers who are uneasy about the change. This is critical and must be evaluated because it has the potential to affect teacher productivity.

A Likert scale with values ranging from 1 to 5, corresponding to extremely incapable (EI), unable (U), quite capable (QC), capable (C), and very capable VC), is used in the questionnaire on the variable measuring the productivity of the teacher's job. Table 4 describes respondents' answers to the teacher's work productivity variable (Y).

Table 4. Description of Respondents' Answers for Teacher's Work Productivity Variable (Y)

Teacher's Work Productivity	Respondent's Answer					Average	Percentage (%)	Category
	EI	U	QC	C	VC			
Able to produce one semester's amount of learning planning modules (Learning Implementation Guide, syllabuses, attendance lists, and student grade lists).	0	0	18	94	19	3.93	78.60	High
Able to produce 4 packages of learning tools in 1 semester.	0	3	74	40	12	2.47	49.46	Low
Able to produce at least 1 teaching aid according to the lessons taught in 1 semester.	21	82	18	6	1	2.10	42.02	Low
Able to produce learning outcomes assessment reports for 1 semester.	0	6	58	61	4	3.49	69.77	High
Able to foster at least 1 extracurricular activity in 1 academic year.	12	96	16	5	0	2.16	43.28	Low
Able to coach at least 1 extracurricular activity in 1 school year.	13	93	20	3	0	2.17	43.44	Low
Able to make at least 1 scientific paper for education in 1 academic year	34	72	14	9	0	1.98	39.69	Low
Able to be an instructor/trainer at least 1 activity/training in the field of education in 1 academic year.	20	99	7	3	0	1.95	38.91	Low
Able to use at least 2 information and communication technologies as learning resources in 1 semester.	0	34	55	37	3	3.07	61.40	High

Source: Data Processing, 2022

According to Table 4, the overall average of respondents' responses is 2.59, which is within the range of 1.95-3.93, making it into the "Unable" category, and with a percentage of 51.84%, it belongs to the Low category. However, the indicator with the highest score is producing learning planning modules (Learning Implementation Guide, syllabuses, attendance lists, and student grade lists) for 1 semester (Y1) at a rate of 78.60%, indicating that the teacher is still meeting the learning planning indicators well during the online learning process.

The lowest score is being able to become an instructor/trainer in at least one activity/training in the field of education during one academic year (Y8), with a percentage of 38.91%. Hence, for teacher achievement indicators, it can be concluded that the teacher is unable to become an instructor/trainer in activities/training in the field of education during the online learning process. This indicator is essential because it can affect the output of teacher work productivity when the work environment changes during the pandemic COVID-19 era.

In this study, the effect of the variable of the work environment (X) on the teacher's work productivity variable (Y) was determined using the simple linear regression test. This regression analysis was conducted using the SPSS program version 27, and the following results were obtained:

The purpose of testing the coefficient of determination is to identify the extent of the influence of variable X on variable Y, as shown by the summary model of a simple linear regression equation. Table 5 shows the results of this analysis.

Table 5. Results of the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.268 ^a	.65	.53	2.478

a. Predictors: (Constant), Work environment

Source: Data Processing, 2022

According to Table 5, the coefficient of determination (R Square) is 0.65 or 65%, indicating that the work environment have a 65% effect on teachers' work productivity and the remaining 35% is influenced by variables that aren't included in this study.

Table 6 below presents the results of assessing the simple linear regression equation using the partial hypothesis test (t-test).

Table 6. T-Test Results of the Simple Linear Regression Equation

Coefficients ^a					
Model B	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	Std. Error	Beta			
1 (Constant)	16.369	1.247		23.123	<.001
Work Environment	.167	.053	.268	3.140	.002

a. Dependent Variable: Teacher's work productivity

Source: Data Processing, 2022

According to Table 5, the following simple regression equation indicates the effects of the work environment on teachers' work productivity:

$$Y = 16.369 + 0.268X$$

According to the findings of SPSS computations, the value of t_{count} is 2.525. This indicates that $t_{\text{count}} > t_{\text{table}}$, or $3.140 > 1.656$, or sig t value $(0.002) < \alpha (0.05)$, implying that H_0 is rejected and H_1 is accepted, and suggesting that the work environment have a positive effect on teacher's work productivity.

DISCUSSION

According to the results of SPSS calculations, the value of t_{count} is 2.525. This shows that the value of $t_{\text{count}} > t_{\text{table}}$, or $3.140 > 1.656$, or the sig t value $(0.002) > \alpha (0.05)$ Therefore, H_0 is rejected and H_1 is accepted, indicating the work environment have a positive effect on teacher's work productivity. The positive effect means that the less comfortable, the less productive the teacher's work will be.

These results support research (Chattopadhyay, 2021), that the existence of an online work environment during the COVID-19 pandemic, changed employee work patterns which had an impact on decreasing work productivity, unconducive living conditions caused employees to be slower in doing work which impacted output. generated. Apart from supporting research before, the results of this partial hypothesis testing also support research (Antràs et al., 2020), where employee productivity is lower, around an average of 60% -70%, due to the working environment conditions at home, which are not as comfortable as at the company. The results of this study are in contrast to the results of research (Pauline Ramos & Tri Prasetyo, 2020) where there is no influence between changes in the work environment during the pandemic (work from home) and employee work productivity.

A good and conducive physical and non-physical work environment will affect the increase in teacher work productivity. The online work environment during the COVID-19 pandemic greatly

affected teacher work productivity (Massoudi & Hamdi, 2017). Limited workspace, inadequate teaching equipment during school from home, disturbance from around the residence, unstable internet signal, and lack of teacher innovation in operating media and work support devices can also affect the quality of workers which has an impact on work output (Siregar et al., 2020).

Based on research results (Dangol, 2020) working environment and learning and skill development on employee productivity. The sample included 132 employees of Nepal in various industries. Data were collected using structured questionnaires. Statistical tools such as frequency distribution, mean score, correlation analysis, and regression analysis were used to analyze data and were presented using tables. The findings of this research study will help in implementing strategies to improve organizational effectiveness. This research gives a significant contribution to organizations by providing a detailed status of factors that enhance the productivity of the business and in what areas improvement is needed work from home during the COVID-19 pandemic had an impact on decreasing the performance and work productivity of elementary school teachers. The monotonous work atmosphere during Work from home has reduced teacher interactions with co-workers, students, and the school environment. Working from home also reduces the quality of the teaching and learning process because there is no direct interaction between teachers and students. The online work environment makes teachers not focus on work because of interactions with family members while working so the resulting impact on work performance and productivity decreases (Li et al., 2020).

Based on the results of previous research, research (Rahmawati et al., 2021) also found that the implementation of a work-from-home system reduced teacher work productivity. The average performance of teachers in teaching online systems is only 50% of the maximum performance of teachers. Overall, no performance results exceed the 70% limit, this means that the teacher's performance is considered less than optimal due to various constraints that occur in each individual.

The factors that cause the decline in teacher work productivity are that there are still many teachers who do not understand the use of modern technology applications from smartphones or laptops (Kaushik & Guleria, 2020). In online learning, the teacher's performance in class control and preparing for learning also only seems a formality. Long distances, of course, also raise obstacles for teachers to interact optimally (Suprapti et al., 2020). Even though the teacher has made efforts so that online interaction can take place optimally, it has become difficult in providing an objective assessment of student achievement, due to constraints in the learning process where not all students are focused on studying and also taking exams themselves. As a result, teachers are seen to generalize student learning success from the results of online exams, which of course is not something that is effective and objective to do (Dodi et al., 2021).

Based on the results of interviews with the Headmaster of School, it was found that during the online work environment with the online teaching and learning process, there was a decrease in teacher work productivity. There was a change in the way of work in the first year of the pandemic and the school had not prepared many things for the online teaching and learning process, which had an impact on the teacher assembly by not achieving several indicators of teacher work productivity. These indicators such on average all teachers not making learning device packages in the form of learning videos, modules, student worksheets, and extracurricular activities cannot run well, most teachers do not make scientific articles in the field of education, and this decrease in teacher work productivity also has an impact on the decline in student learning outcomes.

Adding to the results of previous interviews, according to most teacher assemblies the decrease in work productivity during the online teaching and learning process is due to the inability of teachers and students to coordinate online optimally, the absence of direct supervision from teachers and parents has an impact on student learning outcomes. Most students do not collect assignments on time and do not attend extracurricular activities, so the teacher assembly must personally coordinate with each student to ensure students understand the material being studied and can submit assignments on time, it is not uncommon for this coordination to be carried out beyond working hours teacher. This is one of the causes of online learning teachers do not meet the teacher's work productivity indicators, because most

of the teacher's time has been spent optimizing online coordination.

The results of this interview are in line with the concept of work environment based on the opinion of Schultz & Schiltz (Ismail Sitompul et al., 2019), the work environment is defined as a condition related to the characteristics of the workplace on employee behavior and attitudes. Furthermore, the concept of teacher work productivity put forward (Khan & Abdullah, 2019) is information, attitude, and conduct. With the ever-growing needs of the modern education system, the education industry has to become more techno-savvy, dynamic, and updated. There is always a requirement for skillful and talented manpower to take up this education industry to the heights of international standards. The primary objective of this research paper is to investigate the impact of staff training and development on their productivity and performance in classroom teaching and their administrative work as well. It can also be viewed as their overall productivity. The data collected was through a structured questionnaire. 58 teachers were interviewed through the questionnaire. Statistical Software (SPSS Version 16, is the ability of teachers to be used optimally to achieve output that is more creative, and generative, and generates profits or benefits for the organization and education of their students. In this concept, productive teachers will carry out their duties and obligations to the fullest, so that the results achieved will provide benefits and benefits for themselves, students, and the organization (Wolor et al., 2020) e-leadership, work-life balance, and work motivation on millennial generation employees' performance in today's work life amid the outbreak of the COVID-19 pandemic that requires to work more online. Unlike previous generations, millennials are technology-literate, intent on succeeding quickly, give up easily and seek instantaneous gratification. The population in this study are millennial generation employees at one of Honda motorcycle dealers in Jakarta, Indonesia. The number of samples collected was 200. The sampling technique used is the side probability method, with a proportional random sampling technique. The research method used is an associative quantitative approach through survey methods and Structural Equation Modeling. Data were collected through questionnaires distributed to millennial generation employees, with results then processed through the Lisrel 8.5 program. The results of this study show, first, that e-training, e-leadership, and work-life balance have positive effects on work motivation. Second, e-training, e-leadership, work-life balance and work motivation have positive effects on employees' performance. The findings indicate that companies must pay attention to the factors of e-training, e-leadership, and work-life balance to keep employees motivated and to maintain optimal employee performance, especially during the COVID-19 pandemic through working online (Wolor et al., 2020).

The interview results were also corroborated by the answers from the questionnaires distributed, where the indicator with low results from the work environment variable was not being able to interact with students online making teachers not optimal in teaching, fostering, or training extracurricular activities. An unstable internet signal in the teacher's living environment has an impact on reducing teacher productivity in producing teaching aids and learning packages for the subjects being taught. Changes in working hours and changes in work methods also had an impact on the performance of most teachers, where during the online teaching and learning process most teachers did not produce scientific articles in the field of education in 1 (one) academic year (Rinaldi & Riyanto, 2021).

Based on the results of observations, interviews, distribution of questionnaires, and hypothesis test, it was concluded that the non-physical work environment during the COVID-19 pandemic by implementing online learning had an influence on teacher work productivity at Islamic Elementary School Nurul Islam and Cahaya Ilmu at East Jakarta and Islamic Elementary School AL-Iman at West Bekasi.

CONCLUSIONS AND SUGGESTIONS

Conclusion

Changes in the non-physical and psychological social work environment have a positive impact on teacher work productivity, whereas unstable internet signals in the teacher's residential environment

have a negative impact on teacher productivity in producing teaching aids and learning packages for the fields of study being taught. Teachers are unable to interact with students online due to the discomfort of the psychological social environment, so they are not optimal in teaching, fostering, or training extracurricular activities.

Suggestions

Based on the discussion above, some suggestions in this study may be useful and taken into consideration, including additional equipment, such as chair cushions to lessen the symptoms of physical health issues and ring lights to provide additional room lighting, which is expected to be used by the teacher assembly to reduce the negative effects of the physical and non-physical work environment. Institutions, foundations, and pertinent governmental bodies must start creating the instruments necessary to enable online learning, including learning platforms, online resources, and learning management systems. The COVID-19 pandemic is finished, but it's expected that this learning technology platform's synergy will endure.

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