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The Role of Information Technology and Work Environment in Improving Teacher Performance

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ABSTRACT

This research was carried out to determine the influence of the work environment and the use of information technology on teachers' performance as educators in this era of digitalization, where effectiveness in the use of information technology and support in the form of an adequate work environment. This research uses a type of quantitative descriptive research using a research instrument in the form of a questionnaire. The respondents of this research were 45 teachers at SMA Muhammadiyah 1 Ponorogo. Based on age, the majority of the productive period is 37.8%, the remainder are seniors, and most teaching staff at the school are female. The length of work of respondents in this study is 0-10 years, which is more dominant. The level of teacher education is good, and the bachelor's and master's levels of education can support teacher performance. In Conclusion, the ability to use information technology and the environment really reflects the situation and conditions that exist in the school and plays an active role in assisting the learning process and helping improve teacher performance when carrying out their duties.

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1. INTRODUCTION

Educators or teachers spearhead improving the quality of services and educational outcomes. So schools try to prepare human resources to face current developments. The progress of a nation is primarily determined by the quality of that nation's education. Improving the quality of education cannot be separated from the role of a teacher. Teachers must be responsible and responsible for their primary tasks in the teaching and learning process, managing and teaching students lessons creatively.

According to (Selwyn, 2011), in educational institutions, technology is considered to have benefits as a means of supporting success during learning, whether used as a medium for exploring sources of learning information or used as a medium to support activities in understanding teaching materials that are related to assignments. Applying the newest and most sophisticated IT will positively impact school performance, especially the implementation of teaching staff (teachers). This is as obtained from the results of research conducted by (Handayani et al., 2018) which found that the application of information technology has a positive and significant influence on improving employee performance, meaning that

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every time the application of information technology in the company changes, employee performance also changes. Will experience changes, so it can be concluded that information technology is an independent variable that can be used to influence employee performance (Hasibuan, 2005). Schools need to pay attention to the competencies possessed by teaching staff to operationalize information technology in their activities in carrying out teacher performance to produce better and significantly improved performance. The better the competence of teaching staff in operationalizing IT, the easier it will be to implement IT to help the activities of teaching staff (teachers) in carrying out their duties, especially matters related to the implementation of their performance (Lutfah et al., 2019).

Information technology can be in the form of computers, computer networks, or telecommunications, or it can also be software that can facilitate the system's ability to manage information helpfully (Griffin & Kristiaji, 2004). The role of technology consists of various types of technology; the technology used in information technology systems is computer technology, any communication technology that provides added value to organizations of multiple kinds of information technology, which has a significant impact on every aspect of life and the most important at the moment is computers (Hartono, 2009). The effective use of information technology will contribute so that tasks can be carried out well. This can be achieved by utilizing information technology to reduce human error, such as forgetting, decreased precision due to fatigue, etc. (Hamzah B uno & Lamatenggo, 2011). is an organization's ability to distribute information platforms in the form of services, including application portfolio services, network communication services and management services (Liu et al., 2018). Information technology managerial capabilities can be demonstrated through information technology infrastructure to support the achievement of organizational goals (Tallon, 2008).

(Darmadi, 2018) teacher performance is the ability demonstrated by the teacher to carry out his duties or work. Performance is said to be excellent and satisfactory if the goals achieved are by predetermined standards. According to (Arifin, 2017) teacher performance can be interpreted as the level of success of teachers in carrying out their duties and education by their responsibilities and authority based on performance standards set during a certain period within the framework of achieving educational goals. According to A, teacher performance can be seen and measured based on the competency specifications that each teacher must have. Tabrani (Mursito et al., 2019), teacher performance is carrying out the learning process both in and outside the classroom in addition to other activities, such as working on school administration and learning administration, providing guidance and services to students. Students, as well as carrying out assessments.

Teacher performance through learning can apply information technology well. The teacher's ability, in this case, is undoubtedly a performance requirement and a demand for technological development that the teacher must follow. Learning by applying technology, such as the teacher's ability to present learning material, is richer with various text, audio, visual, animation and film. Apart from the use of information technology, many factors influence teacher performance, one of which affects teacher performance is the work environment. The work environment that occurs in schools can support the learning process, which includes the existence of workspace, air circulation, room model, room contrast, lighting, position of doors and windows, placement, work facilities, blackboard and teacher's desk, accessories, order of chairs, arrangement learning media, the availability of books that have the potential to support the continuity of teacher work (Sogoni, 2017).

Several symptoms were found at SMA Muhammadiyah 1 Ponorogo, including 1) Teachers have not used exciting and fun methods, models and strategies in the learning process. 3) Teaching teachers have not used information technology-based learning media because teachers' abilities still need to improve. 4) School classrooms with chairs and tables need to be replaced with new models, but they are still in use, making them less comfortable. 5) The school environment is still not kept clean, making the learning process less comfortable. This problem will not be allowed to happen without any effort to fix it because whether the teacher's performance is good or bad, there will be causes and effects of this condition. This lack of physical environment will result in teacher performance not being optimal so that learning objectives are not achieved, and the essence of learning is neglected. This research was conducted to

determine the effect of the work environment and the use of information technology on the performance of teachers as educators in this digitalization era, where effectiveness in the use of information technology and support is in the form of an adequate work environment.

2. METHODS

This research uses quantitative descriptive analysis because the completion process uses number processing, which will be calculated through statistical tests. While the approach used is correlation, this research is often called causal research to determine the relationship between the independent variable and the dependent variable. The data collection technique uses a research instrument in the form of a questionnaire. In this research, we will examine all existing populations. The sampling technique in this research is to use a saturated sample method (census sample), a sampling technique for all population members. Another term for saturated sampling is where all members of the population are used as samples (Sugiyono, 2016). According to (Arikunto, 2011), if the population is not greater than 100 people, then the total sample size is taken. Still, if the population is more significant than 100 people, then 10-15% or 10-25% of the population can be taken. For this research, because the population was less than 100 respondents, there were 45 teachers, so a total of 45 teachers were taken. The analysis technique in this research is conducting hypothesis testing using the T-test and F-test.

3. FINDINGS AND DISCUSSION

The research chose the place of implementation at SMA Muhammadiyah Ponorogo, a private secondary school-level educational institution. Achievements recorded include being one of the schools implementing the 2013 curriculum, as a school that won the 2014 Adiwiyata, and as a Muhammadiyah Superior School in East Java ranked 2nd, and accredited A. SMA Muhammadiyah 1 Ponorogo has many facilities and infrastructure to support teaching and learning activities. There is an integrated laboratory, adequate classrooms, and a library, and it also provides internet access to facilitate learning activities.

The respondents of this research were 45 teachers or teaching staff at SMA Muhammadiyah 1 Ponorogo. Based on age, the majority of productive period (25 to 35 years) is 37.8%, the remaining 37.8% are seniors, and most teaching staff at the school are female. The length of work of the respondents in this study was 0-10 years, which was more dominant in filling out the questionnaire, where it has a good level of education and is by the undergraduate and master's levels of education to support teacher performance.

Based on the results of data processing using SPSS, the following results were obtained:

Table 1. T-Test Results (Partial Test) Ability to Use Information Technology

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17,451	3,238		5,390	,000
	Ability to Use Information Technology (X1)	,244	,110	,321	2,221	,032

Dependent Variable: Teacher Performance (Y)

Source: Processed Primary Data, 2023

Based on the table above, the calculated t-test results for the variable ability to use information technology (X1) are 2.221. So the estimated t value is 2.221 > t table of 2.019, and the significant matter is 2.221 < t table of 0.05, meaning that the ability to use information technology influences teacher

performance. The ability to use information technology has accurate indicators, which means that the ability to use information technology truly reflects the situation and conditions at SMA Muhammadiyah 1 Ponorogo and plays an active role in helping the teacher performance process.

The influence of the physical work environment on teacher performance. Based on the results of data processing using SPSS, the following results were obtained:

Table 2. Results of t Test (Partial Test) Physical Work Environment

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,296	3,479		2,097	,042
	Physical Work Environment (X2)	,714	,143	,606	4,991	,000

Dependent Variable: Teacher Performance (Y)

Source: Processed Primary Data, 2023

Based on the table above, the calculated t-test results for the physical work environment variable (X2) were 4.991. So the calculated t value is 4.991 > t table of 2.019, and the significant value is 0.000 < t table of 0.05, meaning that the physical work environment influences teacher performance. The physical work environment has a powerful influence on teacher performance. A comfortable environment around the workplace can improve teacher performance processes. The physical work environment reflects the situation and conditions at SMA Muhammadiyah 1 Ponorogo. Then, it can be explained that the physical work environment plays a very active role in helping improve teacher performance when carrying out their duties.

Table 3. F Test Results (Simultaneous Test)

ANOVA b

Model		Sumof Squares	Df	Mean Square	F	sig.
1	Regression	108,148	3	36,049	9,316	,000[a]
	Residual	158,652	41	3,870		
	Total	266,800	44			

a. Predictors: (Constant), Physical Work Environment X2, Ability to Use Information Technology X1
b. Dependent Variable: Teacher Y's performance

Source: Processed Primary Data, 2023

Based on the table above, the results of the F test are obtained. In the table above, the calculated F value is 9.316, and the Sig is 0.000. So that F count ≥ F table, namely 9.316 ≥ 2.83 and 0.000 ≤ 0.05, it can be interpreted that the ability to use information technology and the physical work environment simultaneously influences teacher performance.

The teacher's ability to utilize technology will really help teachers in the learning process which will certainly improve their performance. Based on the data, it is also known that the physical environment also greatly influences teacher performance in the learning process.

4. CONCLUSION

The results and discussion above can be concluded that partially, there is an influence of the ability to use information technology on teacher performance, and there is an influence of the physical work environment on teacher performance. Moreover, simultaneously, there is an influence on the ability of information technology users and the physical work environment on teacher performance. Based on the results of this research, suggestions for future researchers are to use new variables that are more varied and yet to be listed in the results of this research so that they can determine their maximum influence on teacher performance, especially in the current era of digitalization.

Based on the researcher's direct experience in the research process. However, there are several limitations experienced and this could be due to several factors which can be given more attention by future researchers in further perfecting his research because of this research itself, of course has shortcomings that need to continue to be corrected in research in the future. Several limitations in this research include:

a. The number of respondents was only 45 teachers, which is certainly still not enough describe the real situation.
b. The research object is only focused on the ability to use information technology and the physical environment, of course there are many other factors that influence teacher performance in learning.
c. In the data collection process, the information provided by the respondent through questionnaires sometimes does not show the respondents' opinions. In fact, this happens because sometimes there are differences in thoughts and assumptions and different understandings of each respondent, as well as other factors such as honesty factor in filling out respondents' opinions in their questionnaires.

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