

THE IMPACT OF WORK ENVIRONMENT, LEARNING MANAGEMENT, AND TEACHING ACTIVITY ON TEACHER PERFORMANCE

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ABSTRACT

Teacher performance is a decisive factor in achieving educational excellence, yet it is strongly influenced by contextual elements such as the work environment, learning management, and the effectiveness of teaching activities. This study investigates the direct and indirect effects of these factors, focusing on the mediating role of teaching activity. Using a quantitative descriptive-correlational design with Structural Equation Modeling (PLS), data were collected from 75 teachers through a structured questionnaire. The results show that the work environment significantly affects teaching activity ($\beta = 0.608$, $p < 0.05$) and teacher performance ($\beta = 0.111$, $p = 0.027$), while learning management strongly influences both teaching activity ($\beta = 0.261$, $p < 0.05$) and teacher performance ($\beta = 0.561$, $p < 0.05$). Teaching activity itself positively impacts teacher performance ($\beta = 0.323$, $p = 0.015$) and mediates the relationship between work environment and teacher performance ($\beta = 0.196$, $p = 0.033$) as well as between learning management and teacher performance ($\beta = 0.084$, $p = 0.005$). The conclusion of this study shows that optimizing both the work environment and learning management, alongside promoting active teaching practices, can substantially improve teacher performance.

Keywords : *Learning Management, Work Environment, Teacher Performance*

INTRODUCTION

Teacher performance is widely recognized as a critical determinant of educational quality in both vocational and general education settings. Empirically, numerous studies have demonstrated that the work environment and learning management significantly influence teachers' instructional activities, which in turn affect student learning outcomes (Chen & Guo, 2022; Khasawneh & Al-Amarin, 2023). Theoretically, this relationship can be explained through the *Job Demands-Resources (JD-R) model*, in which a supportive work environment and effective learning management function as job resources that enhance teacher engagement and performance (Bakker &

Demerouti, 2007). Legally, the Republic of Indonesia Law No. 14 of 2005 on Teachers and Lecturers mandates that teachers must work within supportive institutional environments, receive continuous professional development, and be evaluated based on measurable performance indicators. This legal framework underscores the importance of optimizing both environmental and managerial factors to meet national education quality standards.

This study attempts to provide more insight by exploring the direct and indirect effects of work environment and learning management on teacher performance, with the attention spent on the mediating effects of teaching activity. The research will be done in SMK Telkom Malang, a private vocational high school in Indonesia. It will generate important information on ways that schools can maximize the organization and management of the setting to enhance teacher effectiveness. Through exploring the relationship between these factors, it is hoped that the research will serve to add to the wider literature of how to improve the quality of education by enhancing teacher effectiveness.

METHODS

The type of this study is a quantitative research type study with descriptive correlational design. 1.3 Descriptive Studies Descriptive studies are useful for giving a comprehensive picture of the variables being analyzed. The correlational factor, meanwhile, aims to explain how the work environment, learning management, teaching activity, and its effects can be related from each other. The study also applies the mediation analysis methodologies to investigate how teaching activities mediate the relationship among workplace environment; learning management and teacher performance. The study has a cross-section design that data are collected at one point. This enables examination of variable relationships without the necessity for longitudinal data. It is very suitable to investigate the influence of work environment and learning management on the teacher performance, as we can collect data of these two variables at the same time.

Work Environment (X1) represents the physical and social aspects of the teacher's workplace such as the physical conditions of classroom, the provision of resources and the interpersonal relationships among staff. Learning management (X2) is concerned with the management of the teaching and learning process such as lesson preparation, resource management, classroom organization and assessment. Mediator on Study is Teaching Activity (Z) as the independent variable of the teachers regarding ways of working habitually by educators. Z variable -This variable is the method teachers work by day, as in the case of interactive teaching, student-centered activities, classroom management functions, etc.

Dependent Variable is Teacher's Performance (Y) is the performance level of the teachers which would consist of teachers who are able to perform effectively such as the teaching performance, the achievement of student learning goals and the contribution of the teachers to the academic success of the school.

Participants The research was carried out in a vocational school in Indonesia, namely, SMK Telkom Malang. The sample is composed of 75 teachers and staff members in the school. The respondents were determined using total sampling, or all of the teachers at the school being taken as sample. This sampling technique guarantees that the sample was representative of the entire teaching staff and allowed for a holistic view of the determining factors influencing teacher performance within the given context of the school. Demographic information on the respondents, such as gender, age and education level was also obtained. These demographic data are useful to place in perspective the results as well as to ascertain if the sample is representative.

Data for this study used for the present study were obtained as follows:

a. Questionnaire

The main tool of data collection was a structured questionnaire. The questionnaire had four parts:

1. Work Environment (X1): This section assessed various aspects of the work environment, including physical conditions (e.g., lighting, cleanliness) and social factors (e.g., relationships with colleagues, support from management).
2. Learning Management (X2): This category was devoted to management of teaching-and-learning that included instructional planning, classroom management, assessment, etc.
3. Teaching Activity (Z): This measure focussed on the approach taken by teachers and the types of activities rampant in the classroom and the level at which the teacher involves the students in interactive and student-centred activities.
4. Teacher Performance (Y): In this part teacher performance was evaluated by quality of teaching and learning, and contributing to the academic success of the school at large.

The questionnaire used a Likert scale with responses ranging from Strongly Disagree (1) to Strongly Agree (5), allowing respondents to indicate the degree to which they agreed with each statement. This scale provided a precise measure of the constructs under study.

b. Document Review

In addition to the questionnaire, secondary data were collected through document review. This included reviewing school records related to teacher performance, such as student learning outcomes and performance evaluations, to further support the data collected from the surveys.

The data collected were analyzed using Structural Equation Modeling (SEM), specifically the Partial Least Squares (PLS) method. This approach was chosen because it is well-suited for complex models with multiple relationships and allows for estimating direct and indirect effects between variables.

a. Descriptive Statistics:

Descriptive statistics were used to summarize the participants' demographic characteristics and provide an overview of the data. These included measures such as the mean, standard deviation, and frequency distributions of the responses.

b. Measurement Model Assessment (Outer Model):

The measurement model was assessed to evaluate the validity and reliability of the constructs. Convergent validity was assessed using outer loadings, and discriminant validity was evaluated using the Fornell-Larcker criterion. Reliability was tested using Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE).

c. Structural Model Assessment (Inner Model):

The structural model was evaluated by examining the R-squared (R^2) values, representing the variance explained in the dependent variables. Additionally, Q-square values were assessed to evaluate the model's predictive relevance. Path coefficients were analyzed to test the direct and indirect relationships between variables, and mediation effects were assessed using the Bootstrapping method.

d. Hypothesis Testing:

Hypothesis testing was conducted using t-statistics and p-values. A t-statistic greater than the critical value (1.665 for a 95% confidence level) and a p-value less than 0.05 indicate significant relationships. Direct effects were tested first, followed by indirect (mediated) effects.

RESULT AND DISCUSSION

Instrument Validity Test

After collecting respondent data through distributed questionnaires, the next step is to input the data into analysis software (SPSS, SmartPLS, AMOS). Then, CFA is conducted for each construct and finally, the loading factor, AVE, and HTMT/Fornell-Larcker results are examined. The purpose of

this validity test is to ensure that each item in the questionnaire is able to measure the intended construct/variable. The methods include:

1. Construct validity → *Confirmatory Factor Analysis (CFA)* or *Loading Factor* minimal 0,7 (Hair et al., 2022).
2. Convergent validity → Calculated using the value Average Variance Extracted (AVE):

$$AVE = \frac{\sum(\text{loading}^2)}{n}$$

Criteria Notes : $AVE \geq 0,50$.

3. Discriminant validity → *Fornell-Larcker Criterion* atau *HTMT Ratio* (< 0,90).

1. Outer Model Analysis

Outer Loadings

The outer loadings in this model were all found to be above the threshold value of 0.7, ranging from 0.701 to 0.830. These values indicate that the indicators used to measure each construct (work environment, learning management, teaching activity, and teacher performance) are strong and reliable. High outer loadings suggest that each variable's indicators correlate with their respective latent constructs. For example, the "work environment" construct has indicators such as "lighting," "workspace cleanliness," and "air quality," all of which strongly align with the construct as shown by loadings ranging from 0.700 to 0.830. This reflects that the variables effectively capture the construct's dimensions.

Reliability and Validity

This reliability test aims to assess internal consistency between items. This step is carried out by calculating Cronbach's Alpha for each construct, then calculating Composite Reliability from the loading factor,

ensuring all constructs meet the requirements. The following formula is

- **Cronbach's Alpha (α)** → Minimum 0.70

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right]$$

Where:

k = number of items,

σ_i^2 = variance of item i ,

σ_t^2 = variance of total score.

- **Composite Reliability (CR):**

$$CR = \frac{(\sum \lambda)^2}{(\sum \lambda)^2 + \sum (1 - \lambda^2)}$$

used : **Criteria:** $CR \geq 0.70$

Meanwhile, for the model validation stage, the formula used is:

Goodness of Fit (GoF) for PLS-SEM:

$$GoF = \sqrt{AVE \times R^2}$$

Criteria:

- 0.10 = small
- 0.25 = moderate
- 0.36 = large

Significance Criteria:

- t-statistic ≥ 1.96 (significant at $\alpha = 0.05$)
- p-value ≤ 0.05

The Cronbach's Alpha and Composite Reliability values for all the constructs were well above the 0.7 benchmark, indicating that the internal consistency of the constructs is high. Specifically, Teacher Performance and Work Environment exhibited excellent reliability, with composite reliability values of 0.936 and 0.950, respectively. These high values suggest that these constructs are stable and reliable for measuring the

desired outcomes. The Average Variance Extracted (AVE) values also exceeded the critical value of 0.5, indicating that each construct explains more than half of the variance of its indicators. For example, the Work Environment construct had an AVE of 0.543, confirming that it adequately captures the variance in its indicators. This further strengthens the model's ability to measure these constructs effectively.

Discriminant Validity:

Discriminant validity was confirmed by comparing the square root of the AVE for each construct with the correlations between constructs. As all the AVE square roots were greater than the correlations between constructs, we can conclude that the constructs are distinct and do not measure the same concept. For instance, the correlation between Teaching Activity and Teacher Performance was 0.741, while the square root of AVE for Teaching Activity was 0.732, indicating that these are distinct but related constructs.

2. Inner Model Analysis:

R-squared (R^2) values:

The R-squared values represent the variance in the dependent variables explained by the independent and mediating variables. The Teaching Activity construct had a substantial R^2 value of 0.669, meaning that the work environment and learning management explain 66.9% of the variance in teaching activity. This shows that the work environment and learning management are highly influential in determining how teachers perform their teaching activities. On the other hand, the Teacher Performance construct had a lower R^2 value of 0.538, meaning that the work environment, learning management, and teaching activity explain 53.8% of the variance in teacher performance. While not as high as the R^2 for teaching activity, this still represents a meaningful amount of explained variance, indicating that work environment, learning management, and teaching activity significantly affect teacher performance.

Q-Square Values:

The Q-Square values for Teaching Activity (0.271) and Teacher Performance (0.402) indicate strong predictive relevance. Q-Square values greater than 0 suggest that the model has predictive power, making it appropriate for future predictions in similar contexts. This reinforces the model's practical applicability for educational institutions looking to predict the effects of changes in the work environment and learning management on teaching outcomes.

3. Hypothesis Testing and Direct Effects

The hypothesis testing results revealed several important insights into the relationships between the variables.

- a. Work Environment → Teaching Activity (0.608, p-value < 0.05):
The work environment has a substantial and statistically significant positive effect on teaching activity. A better work environment, including lighting, cleanliness, and air quality, directly enhances teachers' effectiveness in teaching activities. This finding is consistent with previous studies that show a positive correlation between a supportive physical environment and better job performance (Korsak & Kristofferson, 2019).
- b. Work Environment → Teacher Performance (0.111, p-value = 0.027):
While the work environment does affect teacher performance, the effect is relatively small (0.111). This suggests that although the physical and social aspects of the work environment influence teachers' performance, other more direct factors, such as teaching methods and teacher motivation, are likely at play.
- c. Learning Management → Teaching Activity (0.261, p-value < 0.05):
Learning management has a positive and statistically significant effect on teaching activity. Well-structured learning management processes, including clear lesson planning, resource availability, and proper evaluation methods, significantly contribute to teachers' lesson conduct. This finding underscores the importance of systematic

approaches to educational administration in enhancing teaching effectiveness.

- d. Learning Management → Teacher Performance (0.561, p-value < 0.05):

Learning management is the strongest direct predictor of teacher performance, with a path coefficient of 0.561. This finding highlights the critical role of proper learning management practices in fostering high teacher performance. Teachers supported by well-managed learning environments are likelier to excel in their teaching roles.

- e. Teaching Activity → Teacher Performance (0.323, p-value = 0.015):

The teaching activity itself has a significant positive effect on teacher performance. Teachers actively engaged in practical teaching activities, including interactive lessons and student-centered approaches, are likelier to achieve high performance in their teaching outcomes.

4. Indirect Effects (Mediation Analysis)

The mediation analysis demonstrated that Teaching Activity significantly mediates the relationships between Work Environment and Learning Management with Teacher Performance.

- a. Work Environment → Teaching Activity → Teacher Performance (0.196, p-value = 0.033 :

Teaching activity partially mediates the relationship between work environment and teacher performance. This means that while a better work environment improves teacher performance, this effect is enhanced when teachers engage in practical teaching activities. Therefore, it is not just the environment that matters, but how the teachers perform their tasks in that environment.

- b. Learning Management → Teaching Activity → Teacher Performance
(0.084, p-value = 0.005) :

Similarly, teaching activity mediates the relationship between learning management and teacher performance. Proper learning management boosts teaching activity, which in turn enhances teacher performance. This suggests that improving learning management alone might be insufficient; active engagement in teaching processes is crucial for optimal teacher performance.

CONCLUSION

The results of this study demonstrate that a positive work environment and effective learning management are essential in enhancing teacher performance, with teaching activity playing a vital role as the link between the two. A supportive school climate—both in its physical conditions and social interactions—combined with well-structured and technology-supported learning management, not only strengthens teaching activities but also creates a sustainable pathway for improving overall teacher performance in vocational education. Practical Recommendations, to create meaningful change, school leaders and policymakers should focus on nurturing an environment where teachers feel valued, supported, and motivated to innovate. This can be achieved by maintaining healthy and comfortable physical spaces, fostering a culture of collaboration, and providing professional development opportunities that are relevant and continuous. Integrating digital tools and learning management systems can further support teachers in delivering engaging and effective instruction.

Research Contribution, this study enriches the understanding of how work environment and learning management interact through teaching activity to influence teacher performance, particularly in the context of Indonesian vocational schools. By placing teaching activity as a mediating variable, the research provides a fresh perspective that blends established educational management theories with practical realities in the classroom.

Suggestions for Future Research, Future studies could explore these relationships over a longer period to capture changes and long-term impacts, or extend the model to include personal factors such as teacher motivation, resilience, and empowerment. Exploring these aspects would help design more holistic strategies to support teachers and ultimately improve the learning experience for students.

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