

The Effect of Competency Training on the Performance of Elementary School Teachers in Juwiring Subdistrict Through Professional Development

Yashinta Anisa Sari Ayuningtyas¹, Nur Achmad²

¹Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

²Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

Email address: yashinta2003@mail.com¹, na203@ums.ac.id²

Abstract—This research aims to determine the effect of competency training on the performance of primary school teachers in Juwiring District through professional development. Respondents in this study were 87 respondents conducted through an online survey with google form. The sampling technique used purposive sampling technique. Validity and reliability tests using smart PLS analysis on the outer model. Hypothesis testing using smartPLS inner model. The results showed that competency training has a significant positive effect on teacher performance, competency training has a significant positive effect on professional development, professional development has a significant positive effect on teacher performance, and professional development significantly mediates the effect of competency training on teacher performance. The managerial implication of this study is to improve teacher competency training programmes and professional development in order to develop teacher performance and improve the quality of education quality.

Keywords—Competency Training, Teacher Performance, and Professional Development

I. INTRODUCTION

Essentially, education should cultivate high-quality and highly competitive human resources. Professional management of education is crucial, with teacher performance being one of the key determining factors. The context of this research is an attempt to understand the factors that influence the performance of primary school teachers in Juwiring sub-district. Problems often faced by primary school teachers in Juwiring sub-district include lack of training, inadequate facilities and infrastructure, heavy workload and administration, low salaries and allowances, and lack of professional support.

Education and training is an indispensable domain in educational technology, even part of educational technology [1]. Through structured and continuous training, teachers can develop their professional skills so that they can provide learning that is more effective and relevant to the needs of learners.

Teacher performance is the level of effectiveness and efficiency of a teacher in carrying out duties and responsibilities to achieve educational goals, namely in educating and teaching students. This opinion reveals that the greater the teacher's contribution to education, the better the teacher's performance. There is no justification for teachers to have substandard competence, as a teacher's level of competence is believed to directly impact their performance [2].

Furthermore, the factor that affects teacher performance is professional development, this is in accordance with Human Relations Theory (Howthorne Effect Theory) which explains

that work productivity is influenced by empowerment. So teacher professional development is carried out as a form of teacher empowerment to improve teacher performance, a form of empowerment can be done through training [3].

The relevance of this topic is very important in the education industry because the quality of teacher performance has a direct impact on the quality of education provided to students. By understanding the factors that influence teacher performance, relevant parties, such as school principals and local governments, can design more effective strategies and policies to improve the quality of education at the basic level, which in turn will have a positive impact on the future of the younger generation.

II. LITERATURE REVIEW AND HYPOTHESIS

A. Competency Training

Competency training consists of a series of activities aimed at enhancing professional knowledge, skills, and attitudes. According to Law No. 14/2005 on Teachers and Lecturers, Article 20, letter b, teachers are obligated to continuously improve and develop their academic qualifications and competencies in line with advancements in science, technology, and the arts while performing their professional duties. Consequently, teachers must engage in lifelong learning and enhance their competencies to effectively fulfill their roles and responsibilities.[1]

The government, through educational institutions, can support teacher development by providing competency training focused on effective teaching methods. This initiative aims not only to enhance the quality of teaching materials but also to improve instructional techniques in classroom practice [4].

B. Teacher Performance

Teacher performance refers to the outcomes of a teacher's work, both in terms of quality and quantity, as reflected in their behavior, actions, and achievements. It is the result of accumulated knowledge, skills, values, abilities, motivation, opportunities, and attitudes acquired through the process of teaching, educating, mentoring, training, and guiding students toward both spiritual and physical maturity [5].

In the field of education, teacher performance plays a crucial role, as the quality of students is directly influenced by the effectiveness of their teachers. Students will receive a better education if their teachers perform well. Teacher performance can be assessed through three key aspects: designing lesson plans, delivering instruction, and evaluating the learning process. To ensure optimal learning outcomes, teachers must demonstrate their best performance by aligning their teaching methods with advancements in science and technology [6].

C. Professional Development

Professional development is a valuable investment that helps create skilled, motivated, and effective teachers, ultimately enhancing the quality of education delivered to students. Programs designed for the professional growth of academic teachers should incorporate activities that not only strengthen teaching-related competencies and skills but also encourage deeper reflection on their role within higher education [7]. As stated by [8], effective professional development is characterized by a strong focus on content, active learning experiences, collaboration among educators, alignment with relevant curricula and policies, and adequate time for meaningful learning.

Hypothesis 1: Competency training has a significant positive effect on teacher performance.

Hypothesis 2: Competency training has a significant positive effect on professional development

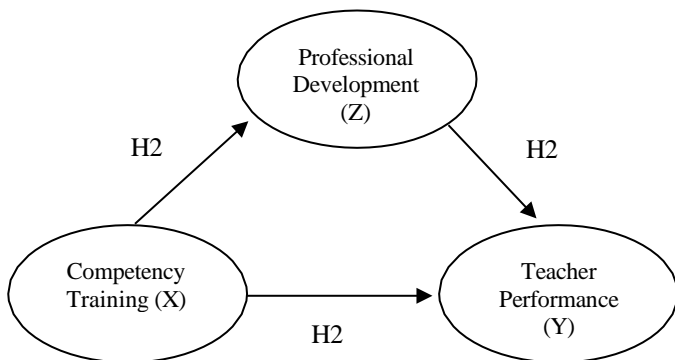


Figure 1. Hypothesis Model

Hypothesis 3: Professional development has a significant positive effect on teacher performance.

Hypothesis 4: Professional development mediates the effect of competency training on teacher performance.

III. RESEARCH METHOD

This study employed a quantitative approach, targeting elementary school teachers in Juwiring Subdistrict as the

research population. The sampling method used was non-probability sampling, specifically purposive sampling. The primary data for this research was collected through the distribution of questionnaires. To measure responses, a Likert scale was utilized. The study's variables are categorized into independent, dependent, and mediating variables, where competency training serves as the independent variable, teacher performance as the dependent variable, and professional development as the mediating variable.

For data analysis, this research applied the Partial Least Square (PLS) method using SmartPLS software. PLS is a technique used in Structural Equation Modeling (SEM), which provides high flexibility in linking theoretical concepts with empirical data [9]. Choosing the right data analysis method is essential for processing and interpreting collected data effectively. In this study, researchers analyzed both the measurement model (outer model) and the structural model (inner model). The measurement model was evaluated for validity and reliability, while the structural model was assessed using the R-squared test, F-squared test, and path correlation analysis.

IV. RESULT AND DISCUSSION

1. Evaluation of Measurement Model (Outer Model)

Outer model testing is conducted to define the relationship between latent variables and their respective indicators.

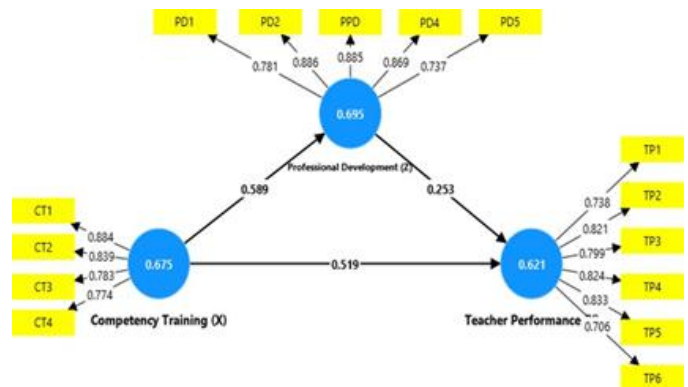


Figure 2. Outer Model

A. Convergent Validity

Table 1 reveals that all indicators of the research variables have outer loading values greater than 0.7. However, according to Chin (1998), loading values between 0.5 and 0.6 are still acceptable for establishing convergent validity. The data further shows that none of the variable indicators have an outer loading value below 0.5, confirming that all indicators are valid and suitable for research purposes. Therefore, these indicators can be used for further analysis.

The following table presents the outer loading values for each indicator within the research variables.

TABLE 1. Outer Loadings Result

Variable	Indicator	Outer Loading
Competency Training (X)	CT1	0,884
	CT2	0,839
	CT3	0,783
	CT4	0,774
Teacher Performance (Y)	TP1	0,738
	TP2	0,821
	TP3	0,799
	TP4	0,824
	TP5	0,833
	TP6	0,706
Professional Development (Z)	PD1	0,781
	PD2	0,886
	PD3	0,885
	PD4	0,869
	PP5	0,737

Based on table 2, convergent validity can be evaluated not only by examining outer loading values but also by considering the Average Variance Extracted (AVE) value. According to Fornell and Larcker (1981), an AVE value greater than 0.5 indicates that the construct meets the criteria for convergent validity. The finding of this research show that each variable has an AVE value above 0.5, confirming their validity. Specifically, the AVE value for competency training is 0.675, for teacher performance is 0.636, and for professional development is 0.735. These results confirm that all variables fulfill the criteria for discriminant validity. The table below displays the AVE values for each variable in this study:

TABLE 2. Result of Average Variance Extracted

Variable	AVE (Average Variance Extracted)	Description
Competency Training (X1)	0.621	Valid
Teacher Performance (Y)	0.675	Valid
Professional Development (Z)	0.695	Valid

B. Discriminant Validity

TABLE 3. Result of Cross Loading

	Teacher Performance (Y)	Competency Training (X)	Professional Development (Z)
TP1	0.738	0.452	0.345
TP2	0.821	0.474	0.396
TP3	0.799	0.481	0.480
TP4	0.824	0.611	0.461
TP5	0.833	0.593	0.496
TP6	0.706	0.518	0.443

CT1	0.612	0.884	0.470
CT2	0.541	0.839	0.360
CT3	0.496	0.783	0.549
CT4	0.541	0.774	0.537
PD1	0.428	0.356	0.781
PD2	0.420	0.423	0.886
PD3	0.394	0.457	0.885
PD4	0.408	0.467	0.869
PD5	0.595	0.644	0.737

Based on the data in Table 2, each indicator of the research variables shows the highest cross-loading value for its respective variable compared to its loadings on other variables. These findings validate that the indicators effectively distinguish their corresponding constructs, demonstrating

strong discriminant validity in this research.

C. Reliability Test

In table 4 shows that the composite reliability values for all research variables are above 0.7, demonstrating a high level of reliability. In particular, the composite reliability for competency training is 0.883, for teacher performance is 0.840, and for professional development is 0.904. These results confirm that each variable meets the composite reliability criteria. Furthermore, the reliability requirements are met in this study, as all variables have Cronbach's alpha values exceeding 0.6. This indicates that all constructs used in the research are considered reliable.

TABLE 4. Cronbach's and Composite Reliability Result

Variable	Composite reliability (rho_a)	Cronbach Alpha
Competency Training (X)	0,883	0,878
Teacher Performance (Y)	0,840	0,838
Professional Development (Z)	0,904	0,891

D. Multicollinearity Test

TABLE 5. Collinearity Statistic (VIF)

	Teacher Performance (Y)	Professional Development (Z)
Competency Training (X)	1.532	1.000
Professional Development (Z)	1.532	

Based on table 5, Collinearity statistics are presented using the Variance Inflation Factor (VIF) to evaluate potential multicollinearity among variables. A VIF value exceeding 5 suggests the presence of multicollinearity.

Based on the table, the collinearity statistics (VIF) results show that all variables have a cutoff value greater than 0.1 and a VIF value below 5. This indicates that none of the variables violate the multicollinearity test, ensuring that multicollinearity is not a concern in this study.

2. Evaluation of Structural Model (Inner Model)

The inner model is evaluated to examine the influence between latent variables. This analysis includes three key assessments: measuring the R² (R-square) value, Goodness of Fit (GoF) test, and path coefficient analysis.

A. Goodness of Fit Test

The evaluation of the structural model aims to analyze the relationships between manifest and latent variables, encompassing the main predictor, mediator, and outcome variables within an integrated framework. The goodness-of-fit test consists of two key measures:

- R-Square (R²): Determines the proportion of variance explained by the independent variables.
- Q-Square (Q²): Assesses the predictive relevance of the model.

These tests help determine the overall model fit and its ability to explain variations in the dependent variable.

TABLE 6. R-Square Result

	R-square	R-square adjusted
Teacher Performance (Y)	0.489	0.477
Professional Development (Z)	0.347	0.340

According to the table, the R-Square (R^2) value is utilized to assess the degree to which competency training influences teacher performance. The obtained R^2 value is 0.489 (48.9%), indicating a strong relationship. Additionally, the R^2 value for the influence of competency training on professional development is 0.347 (34.7%), which also represents a strong relationship.

Next, the Q-Square (Q^2) test is conducted to evaluate the predictive relevance of the structural model. The obtained Q^2 value is 0.66632, meaning that the research model explains 95% of the variance in the data, while the remaining 5% is influenced by factors outside this model. Based on these results, the research model demonstrates a good goodness of fit, indicating that it effectively explains the relationships between the variables.

B. Hypothesis Test

In this study, hypothesis testing is conducted using the path coefficient values found in Table 7. Direct effects are analyzed using path coefficients for direct relationships, while specific indirect effects are examined to assess mediation. The bootstrapping method is applied to determine t-statistics, p-values (critical ratio), and original sample values generated from the process. A p-value below 0.05 indicates a significant direct effect between variables. A p-value above 0.05 suggests no significant direct effect. At a 5% significance level, the t-statistic threshold for significance is set at 1.96. When the t-statistic surpasses this value, the relationship is deemed statistically significant. The table below displays the path coefficient values derived from the analysis obtained from the analysis.

TABLE 7. Path Coefficient (Direct Effect)

	Original Sample	t-Statistic	P Values	Information
Competency Training(X) -> Teacher Performance (Y)	0,519	5,294	0,000	H1 Accepted
Competency Training(X) -> Professional Development (Z)	0,589	8,392	0,000	H2 Accepted
Professional Development (Z) -> Teacher Performance (Y)	0,253	2,205	0,028	H3 Accepted

Based on Table 7, Research Hypothesis Results:

H1: Competency Training Positively and Significantly Affects Teacher Performance

The first hypothesis investigates whether competency training significantly enhances teacher performance. The findings show a t-statistic of 5.294, an effect size of 0.519, and a p-value of 0.000. Because the t-statistic is greater than 1.96 and the p-value is less than 0.05, the first hypothesis is supported, indicating that competency training has a significant positive impact on teacher performance.

H2: Competency Training Positively and Significantly Affects

Professional Development

The second hypothesis assesses whether competency training has a significant positive effect on professional development. The results reveal a t-statistic of 8.392, an effect size of 0.589, and a p-value of 0.000. Since the t-statistic exceeds 1.96 and the p-value is below 0.05, the relationship is statistically significant, the second hypothesis is accepted, indicating that competency training significantly contributes to professional development.

H3: Professional Development Positively and Significantly Affects Teacher Performance

The third hypothesis evaluates whether professional development significantly influences teacher performance. The table reports a t-statistic of 2.205, an effect size of 0.253, and a p-value of 0.040. Since the t-statistic exceeds 1.96 and the p-value is below 0.05, the relationship is considered statistically significant, the third hypothesis is accepted, demonstrating that professional development plays a crucial role in improving teacher performance.

TABLE 8. Indirect Effect

	Original Sample	t-Statistic	P Values	Information
Competency Training(X) -> Professional Development (Z) -> Teacher Performance (Y)	0,149	1,978	0,048	H4 Accepted

Table 8 presents the results of indirect effect testing, which are assessed through specific indirect effect values. If the p-value is less than 0.05, impact for this is deemed significant, suggesting that the mediator variable plays a role in linking the exogenous and endogenous variables, leading to an indirect effect. Conversely, if the p-value exceeds 0.05, the effect is not significant.

H4: Professional development positively and significantly mediates the effect of competency training on teacher performance.

The fourth hypothesis examines whether professional development mediates the relationship between competency training and teacher performance. As shown in the table, the t-statistic retrieved 1.978, exceeding the threshold of 1.96, while the p-value show 0.048, which is below 0.05. These results indicate a significant mediating effect. So it can be concluded that the effect of competency training on teacher performance can be partially mediated by professional development.

3. Evaluation Importance Performance Map Analysis (IPMA)

IPMA analysis is used to write down the managerial implications of the research results. We can find out what constructs and indicators need to be considered by decision makers so that the construct or indicator can be brought towards higher performance than the current situation when the research is conducted. Below are the results of the IPMA analysis [10].

From the picture above, it can be concluded that if we want to provide managerial implications, we must focus on the 4th

quadrant (bottom right) which states a high level of importance but low performance. So if you want to improve high organisational performance, you must increase the items located in that quadrant, especially PK1, PK4, PK3, and PK2. Unlike quadrant 3 (bottom left), those items are not important and the performance is already quite high. Quadrant 1 also does not need to be considered because it is the most important item but its performance is still low.

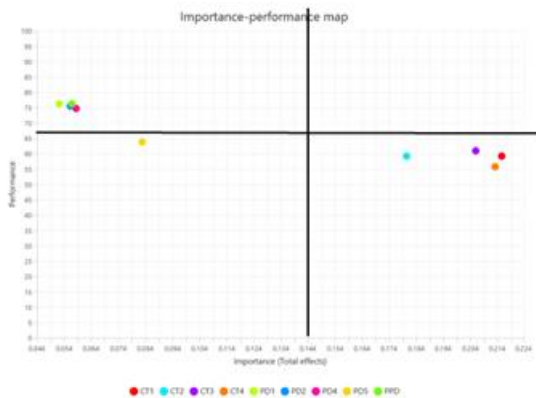


Figure 3. IPMA Indicator

V. CONCLUSIONS AND SUGGESTION

The research findings indicate that competency training has a significant positive impact on teacher performance. Additionally, competency training also significantly enhances professional development, professional development has a significant positive effect on teacher performance, the effect of competency training on teacher performance can be significantly mediated by professional development. For further research, it is better to use or add other variables that have not been used in this study that can be studied significantly to affect teacher performance. In addition, it is better to involve all people who are teachers as respondents with a larger number of

samples by examining a wider range of objects so that the data obtained is more varied and accurate.

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