



## The Effect of Teacher Certification, Professionalism, and Work Discipline on their Performance in Pekanbaru City Senior High School

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### ABSTRACT

This study aims to analyze the effects of teacher certification, professionalism, and work discipline on teachers' performance in senior high schools in Pekanbaru, both partially and simultaneously. Using a quantitative approach with an explanatory research design, the study involved 69 teachers selected through stratified random sampling from a population of 800. Data were collected via validated and reliable questionnaires (significance = 0.05, reliability = 0.89) and analyzed using multiple linear regression with SPSS 26. The results indicate that teacher certification ( $\beta = 1.055$ ), professionalism ( $\beta = 0.794$ ), and work discipline ( $\beta = 0.913$ ) significantly affect teacher performance. Collectively, these factors contribute 67.7%, with 32.3% affected by other variables. Schools should enhance teacher training and professional development to improve performance.

## INTRODUCTION

The success of education depends not only on curriculum and facilities but also on teacher performance, which significantly impacts students' academic and personal growth. Teacher performance includes planning, implementing, and evaluating the learning process, requiring competencies in pedagogy, personality, social skills, and professionalism (Minister of Education and Culture Regulation No. 16 of 2007). However, reports indicate that teacher performance in several schools, including a public high school in Pekanbaru, remains suboptimal, contributing to declining learning quality in 2023. Key factors influencing performance include teacher certification, professionalism, and work discipline. Research shows that teacher certification improves teaching methods and classroom management (Kale, 2022; Anwar, 2021), while professionalism and continuous self-development enhance teaching outcomes (Yulianti, 2022). The Merdeka Mengajar Program supports professional growth, but 44.77% of teachers in a Pekanbaru high school struggle with platform access, highlighting the need for further training. Work discipline also plays a crucial role in teacher performance, as adherence to regulations and commitment to responsibilities improve classroom management and teaching effectiveness (Sari, 2021). However, observations in Pekanbaru show that 30% of teachers arrive late for classes, reflecting low commitment. Given these issues, this study examines the impact of teacher certification, professionalism, and work discipline on teacher performance in Pekanbaru high schools. The findings aim to provide insights and recommendations for improving teacher effectiveness, ultimately enhancing education quality in the region.

## LITERATURE REVIEW

### Teacher Performance

Teacher performance reflects effectiveness in teaching, influenced by motivation, ability, and work environment (Khan & Ali, 2020). It encompasses competency mastery and learning quality (Wibowo, 2017; Yamin & Maisah, 2018). Key factors include personality, dedication, professional development, and discipline (Saondi, 2019; Indrafachrudi, 2017). Performance assessment, guided by APKG and regulatory standards, focuses on lesson planning, subject mastery, classroom management, and student evaluation (Ondi & Saondi, 2017). Enhancing teacher performance requires professional growth, a supportive environment, and objective evaluation to improve education quality.

### Teacher Certification

Teacher certification enhances education quality in Indonesia by ensuring teachers' professional competence (Martinis, 2016; Trianto & Titik, 2017). It validates qualifications, improves teaching standards, and offers financial incentives (Samani, 2019; Maulidi, 2016). Certification benefits include protecting the profession, ensuring education quality, and enhancing teacher welfare (Marselus, 2019; Kusnandar, 2017). The World Bank (2016) highlights its role in motivating teachers to improve teaching methods. Assessment covers qualifications, training, experience, lesson planning, evaluations, and achievements, reinforcing professionalism and benefiting the education system.

### **Teacher Professionalism**

Teacher professionalism refers to the quality, competence, and ethical conduct expected from educators. It involves specialized expertise acquired through education and training (Samsudin, 2017; Arifin, 2017). Professional teachers possess the necessary skills and authority in education, instruction, and training (Kunandar, 2017). Their professionalism is shaped by education, experience, and continuous development (Huda, 2017; Hamalik, 2017). Supriadi (2019) highlights key criteria for professional teachers, including strong character, teaching ability, subject mastery, academic qualifications, administrative skills, and dedication to students. Indicators of professionalism include responsibility, active engagement in learning, and collaboration with parents and colleagues (Hamalik, 2016). Professionalism is essential in improving education quality and student development, requiring teachers to continually enhance their skills and commit to lifelong learning.

### **Work Discipline**

Work discipline ensures compliance with organizational rules, fostering efficiency and productivity. It involves punctuality, adherence to regulations, and acceptance of sanctions (Hasibuan, 2019; Sastrohadiwiryono, 2018). Discipline is key in human resource management, enhancing motivation and performance (Rivai, 2019). It includes self-imposed and command discipline (Moekizat, 2019) and various types: preventive, corrective, hot stove rule, and progressive (Handoko, 2020). Influencing factors include leadership, compensation, fairness, and supervision (Hasibuan, 2019). Discipline covers punctuality, compliance, and responsibility (Robbins, 2017; Sutrisno, 2019). Effective discipline requires managerial attention to maintain a productive work environment.

### **Previous Studies**

Previous studies have demonstrated a significant relationship between certification, professionalism, work discipline, and teacher performance. Certification enhances education quality and teacher effectiveness (Alfath & Huliatusunisa, 2021; Hamzah et al., 2023), while professionalism positively influences performance (Tarigan, 2020; Yudiawati et al., 2022). Discipline and principal supervision also contribute to improved teacher outcomes (Hapizoh et al., 2020; Utari, 2019; Damanik, 2019). Additionally, certification and motivation play a crucial role in boosting teacher performance (Akbar et al., 2021; Amin & Lian, 2021), with leadership further strengthening its impact (Hartiwi et al., 2020). These findings underscore the importance of certification, professional development, and a structured, disciplined work environment in enhancing teacher performance and overall education quality.

### **Hypotheses**

The hypotheses of this study are as follows:

- a. Ha<sub>1</sub>: Teacher certification has a significant effect on the performance of high school teachers in Pekanbaru.
- b. Ha<sub>2</sub>: Teacher professionalism has a significant effect on the performance of high school teachers in Pekanbaru.

- c. Ha<sub>3</sub>: Work discipline has a significant effect on the performance of high school teachers in Pekanbaru.
- d. Ha<sub>4</sub>: Certification, professionalism, and work discipline collectively have a significant effect on the performance of high school teachers in Pekanbaru.

## **METHODS**

This study employs a survey method using a questionnaire to examine past events and identify contributing factors (Sugiyono, 2019). The research variables include independent variables—certification (X<sub>1</sub>), professionalism (X<sub>2</sub>), and work discipline (X<sub>3</sub>)—and the dependent variable, teacher performance (Y). Conducted in high schools across Pekanbaru, the study spans from January to June 2024. The population consists of 800 high school teachers, with a purposive sample of 69 teachers from SMAN 11 Pekanbaru. Data collection utilizes a Likert-scale questionnaire measuring factors such as facilities, work motivation, and teacher commitment. Instrument validation, tested using Pearson's Product Moment in SPSS 25, confirms that 17 of 25 certification items, all 17 professionalism items, and all 17 discipline items are valid. Reliability testing using Cronbach's Alpha shows all variables exceed 0.600 (certification: 0.945, professionalism: 0.949, discipline: 0.946, teacher performance: 0.949), ensuring the instrument's reliability (Arikunto, 2019).

Prior to regression analysis, classical assumption tests are conducted, including normality (Kolmogorov-Smirnov), linearity, and multicollinearity (VIF < 10 and tolerance > 0.1). Hypothesis testing involves t-tests (partial influence), F-tests (simultaneous influence), and the coefficient of determination (KD =  $r_{xy}^2 \times 100\%$ ). Results indicate whether certification, professionalism, and work discipline significantly affect teacher performance, following analytical frameworks from Sugiyono (2019) and Arikunto (2019). The study underscores the importance of validity and reliability in quantitative research to ensure accurate and credible findings.

## **RESULTS AND DISCUSSION**

### **A. Descriptive Analysis**

#### **1. Teacher certification (X<sub>1</sub>)**

Descriptive analysis of the teacher certification variable (X<sub>1</sub>) was conducted using a 25-item questionnaire administered to 69 respondents. SPSS 26 results indicate a mean score of 79.51, with a median of 80.00 and a mode of 85, suggesting a generally high certification level. Data dispersion is minimal, with a standard deviation of 5.060 and a range of 17 (minimum: 68, maximum: 85). Categorization shows that 60.87% of respondents fall into the high category, 21.74% in the moderate category, and 17.39% in the low category. These findings suggest that most teachers possess adequate certification, though improvements are needed for those in the lower category.

Table 1. The descriptive statistics of teacher certification

DESCRIPTIVE STATISTIC	
N	69
Mean	79.51
Median	80.00
Mode	85
Std. Deviation	5.060
Variance	25.607
Range	17
Minimum	68
Maximum	85

### 2. Professionalism ( $X_2$ )

The professionalism variable ( $X_2$ ) was measured using a questionnaire with 17 items administered to 69 respondents. Analysis in SPSS 26 showed a mean score of 76.73, a median of 77.00, and a mode of 74, indicating a relatively high level of teacher professionalism. The data exhibited a moderate spread, with a standard deviation of 5.811 and a range of 21 (minimum = 64, maximum = 85). Categorization revealed that 47.83% of respondents had high professionalism, 34.78% moderate, and 17.39% low. These results suggest that most teachers demonstrate strong professionalism, though improvements remain possible.

Table 2. The descriptive statistics of professionalism

DESCRIPTIVE STATISTIC	
N	69
Mean	76.73
Median	77.00
Mode	74
Std. Deviation	5.811
Variance	33.766
Range	21
Minimum	64
Maximum	85

### 3. Work discipline ( $X_3$ )

The work discipline variable ( $X_3$ ) was measured using a 17-item questionnaire administered to 69 respondents. Analysis in SPSS 26 showed a mean score of 92.29, a median of 94.00, and a mode of 100, indicating a very high level of teacher work discipline. The data had a standard deviation of 7.950 and a range of 33 (minimum = 67, maximum = 100). Categorization revealed that 75.36% of respondents had high discipline, 20.29% moderate, and 4.35% low. These results suggest that most teachers demonstrate strong work discipline, with only a few needing improvement.

Table 3. The descriptive statistics of work discipline

DESCRIPTIVE STATISTIC	
N	69
Mean	92.29
Median	94.00
Mode	100
Std. Deviation	7.950
Variance	63.209
Range	33
Minimum	67
Maximum	100

#### 4. Teacher performance (Y)

Teacher performance (Y) was measured using 20 Likert-scale items administered to 69 respondents. Analysis with SPSS 26 showed a mean score of 113.49, a median of 116.00, and a mode of 125, indicating generally good performance. Data dispersion revealed a standard deviation of 8.833 and a range of 33 (minimum = 92, maximum = 125). Performance categories showed 57.97% of respondents in the high category, 30.43% in the moderate category, and 11.59% in the low category. These results suggest that most teachers perform well, though improvements are possible.

Table 4. The descriptive statistics of teacher performance

DESCRIPTIVE STATISTIC	
N	69
Mean	113.49
Median	116.00
Mode	125
Std. Deviation	8.833
Variance	78.018
Range	33
Minimum	92
Maximum	125

### B. Preliminary Testing

The prerequisite tests confirmed that the data met regression assumptions. The Kolmogorov-Smirnov test showed all variables were normally distributed (Sig  $\geq$  0.05). Linearity tests indicated significant relationships between teacher performance and certification (Sig = 0.121), professionalism (Sig = 0.321), and work discipline (Sig = 0.048). Multicollinearity was absent, with VIF  $<$  10 and Tolerance  $>$  0.1. Glejser's test confirmed no heteroscedasticity (Sig  $\geq$  0.05). Thus, the regression model met all assumptions, ensuring the validity and reliability of the analysis per Arikunto (2019) and Sugiyono (2019).

### C. Hypothesis Testing

#### 1. Linear Regression

- 1) Teacher certification ( $X_1$ ): The regression equation  $Y = 29.625 + 0.170 X$  indicates that each one-point increase in certification score raises teacher performance by 0.170. The significance value ( $\text{Sig} = 0.000 < 0.05$ ) confirms a significant effect.
- 2) Professionalism ( $X_2$ ): The equation  $Y=52.540+0.522X$  shows that a one-point increase in professionalism improves teacher performance by 0.522. The significant value ( $\text{Sig} = 0.000 < 0.05$ ) confirms a substantial influence.
- 3) Work discipline ( $X_3$ ): The equation  $Y=29.235+0.822X$  suggests that each additional point in work discipline enhances teacher performance by 0.822. The significance value ( $\text{Sig} = 0.000 < 0.05$ ) indicates a strong impact.

Overall, the regression analysis results indicate that certification, professionalism, and work discipline significantly influence teacher performance, aligning with the theories outlined by Arikunto (2019) and Sugiyono (2019). The detailed calculations are presented in the following table.

Table 5. Linear Regression

Model		Unstandardized Coefficients	Standardized Coefficients		
		B	Beta	t	Sig
1	(Constant)	29.625	13.535	2.189	.032
	Teacher certification	1.055	.170	6.209	.000
2	(Constant)	52.540		4.307	.000
	Professionalism	.794	.522	5.011	.000
3	(Constant)	29.235		4.081	.000
	Work Discipline	.913	.822	11.804	.000
a. Dependent Variable: Teacher performance					

#### 2. Multiple Regression Analysis

This analysis was conducted to examine the effect of teacher certification, professionalism, and work discipline on teacher performance. The following table presents the results of the multiple linear regression analysis.

Table 6. Multiple Regression

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	25.708	9.925	
	Teacher certification	.080	.207	.046
	Professionalism	.013	.162	.009
	Work Discipline	.871	.112	.784
Dependent Variable: Teacher performance				

The interpretation of the multiple linear regression table is as follows:

- 1) The constant value (a) of 25.708 represents the teacher performance level when certification ( $X_1$ ), professionalism ( $X_2$ ), and work discipline ( $X_3$ ) have no influence.
- 2) The regression coefficient ( $b_1$ ) for certification is 0.080, indicating that a one-unit increase in certification improves teacher performance by 0.080, assuming other variables remain constant.
- 3) The regression coefficient ( $b_2$ ) for professionalism is 0.013, meaning that a one-unit increase in professionalism raises teacher performance by 0.013, with other variables held constant.
- 4) The regression coefficient ( $b_3$ ) for work discipline is 0.871, suggesting that a one-unit increase in work discipline enhances teacher performance by 0.871, assuming other variables remain unchanged.

The partial test (t-test) was conducted to determine the individual effect of each independent variable on the dependent variable. The decision criterion states that if Sig < 0.05, the alternative hypothesis ( $H_a$ ) is accepted, and the null hypothesis ( $H_0$ ) is rejected, indicating a significant effect. Conversely, if Sig > 0.05,  $H_0$  is accepted, and  $H_a$  is rejected, suggesting no significant effect. The detailed t-test results are presented in the following table.

Table 7. The results of the partial test (t-test)

ANOVA						
Model		Sum of squares	Df	Mean Square	F	Sig
1	Regression	3589.826	3	1196.609	45.312	.000 <sup>b</sup>
	Residual	1715.420	65	26.391		
	Total	5305.246	68			
a. Dependent Variable: Teacher performance						
b. Predictors: Work Discipline, Professionalism, Teacher certification						

The ANOVA test results show a significance value of 0.000, which is less than 0.05, indicating that  $H_a$  is accepted and  $H_0$  is rejected. This confirms a significant combined effect of work discipline, professionalism, and certification on teacher performance in high schools in Pekanbaru.

### 3. Coefficient determination

The coefficient of determination in this study is used to quantify the extent to which the independent variable(s) ( $X$ ) collectively influence the dependent variable ( $Y$ ), expressed as a percentage (%). The following calculation results were obtained:

Table 8. The results of the coefficient determination

Model Summary				
Model	R	R square	Adjusted R Square	Std. Error of the estimate
1	.823 <sup>a</sup>	.677	.662	5.137
a. Predictors: (Constant), Work Discipline, Professionalism, Teacher certification				
b. Dependent Variable: Teacher performance				

The Model Summary table shows an R Square value of 0.677, which, when converted to a percentage, is 67.7%. This indicates that work discipline, professionalism, and certification collectively influence teacher performance by 67.7%. The remaining 32.3% represents the impact of other factors not included in this study or the regression model used.

## DISCUSSIONS

### 1. The effect of teacher certification on teacher performance

Teacher certification has a significant effect on teacher performance in high schools in Pekanbaru, with a significance value of  $0.000 \leq 0.05$  and a regression coefficient of 1.055. This indicates that a one-unit increase in certification contributes to a 1.055 increase in teacher performance, assuming other variables remain constant. The findings align with Iskandar (2018), who reported that 72% of certified teachers showed performance improvement, and Abdullah (2020), who found that 68% of certified teachers contributed to better student learning outcomes. Similarly, Yuliana (2019) confirmed a positive relationship, with 80% of certified teachers providing more effective instruction. These results reinforce the argument that certification plays a crucial role in enhancing teaching quality and teacher performance, consistent with the findings in Pekanbaru High Schools.

### 2. The effect of teacher professionalism on teacher performance

Regression analysis confirms that professionalism significantly impacts teacher performance in Pekanbaru high schools (Sig =  $0.000 \leq 0.05$ , coefficient = 0.794), meaning a one-unit increase in professionalism raises performance by 0.794, assuming other variables remain constant. The findings align with Ashidiqi (2016) ( $R^2 = 46.24\%$ ), Yulia et al. (2021) (path coefficient = 0.5377,  $t = 6.1773$ ), and Sari (2020) ( $t = 4.2867$ ), all confirming professionalism's role in improving performance. These results highlight professionalism as a key factor in educational success.

### 3. The effect of work discipline on teacher performance

Analysis results indicate a positive and significant relationship between work discipline ( $X_3$ ) and teacher performance (Y) (Sig =  $0.000 \leq 0.05$ , coefficient = 0.913,  $t = 11.804$ ), meaning a one-unit increase in work discipline improves performance by 0.913, assuming other variables remain constant. The findings align with Iskandar (2018) ( $R^2 = 45.67\%$ ), Fitriani (2020) ( $t = 5.124$ , Sig = 0.000), and Susanto (2021) (coefficient = 0.682), all confirming work discipline's positive effect on motivation, responsibility, and teaching quality.

### 4. The effect of teacher certification, professionalism, and work discipline on teacher performance

The F-test results show a significance value of 0.000, indicating that  $H_a$  is accepted and  $H_0$  is rejected, confirming a significant simultaneous effect of work discipline, professionalism, and certification on teacher performance in Pekanbaru high schools. These variables collectively

contribute to performance improvement. This finding aligns with Rahmat (2018) ( $R^2 = 67.5\%$ ), Widyastuti (2020) ( $F = 42.813$ ,  $Sig = 0.000$ ), and Putri et al. (2021) ( $R^2 = 73.2\%$ ), all confirming their significant impact. The consistency of these results underscores that work discipline, professionalism, and certification are key components in enhancing teacher performance, creating a synergistic effect that strengthens education quality.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis, teacher certification, professionalism, and work discipline significantly affect teacher performance in high schools in Pekanbaru. Teacher certification has a positive effect, with a significance value of  $0.000 < 0.05$  and a coefficient of 1.055, meaning a one-unit increase in certification improves teacher performance by 1.055, assuming other variables remain constant. Professionalism also plays a crucial role, with a significance value of  $0.000 < 0.05$  and a coefficient of 0.794, indicating that a one-unit increase enhances teacher performance by 0.794. Similarly, work discipline has a significant effect, with a significance value of  $0.000 < 0.05$  and a coefficient of 0.913, meaning a one-unit increase in discipline leads to a 0.913 improvement in teacher performance.

Together, these three factors contribute significantly to teacher performance, with a combined coefficient of determination ( $R^2$ ) of 67.7%, meaning they explain 67.7% of the variation in performance, while 32.3% is influenced by other factors not included in this study. The overall model shows an  $R^2$  of 0.847 (84.7%), indicating that leadership, supervision, motivation, and school culture also play critical roles. Optimizing these aspects through leadership training, continuous supervision, motivation enhancement, and a positive school culture is essential for improving education quality.

To enhance teacher performance, school principals should provide relevant professional training, foster positive relationships with teachers, recognize achievements, and create a supportive work environment with structured supervision. Teachers should actively participate in training, adopt innovative teaching methods, maintain discipline, and integrate technology into their teaching practices. Future research should expand the scope of study by including additional variables such as organizational culture and parental support while adopting a mixed-methods approach to gain deeper insights into factors affecting teacher performance and education quality.

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