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The Influence of Principal Instructional Leadership, Teacher Digital Literacy, and Teacher Emotional Intelligence on the Elementary School Teacher Performance in Siak Hulu Regency

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A B S T R A C T

This study aims to analyze the influence of principal instructional leadership, teachers' digital literacy, and teachers' emotional intelligence on the performance of public elementary school teachers in Siak Hulu District. It examines both the partial and simultaneous effects of these independent variables on teacher performance. A quantitative research method with a descriptive correlational approach was used. Data were collected through questionnaires from public elementary school teachers and tested for validity using factor analysis and reliability with Cronbach's Alpha. Multiple regression analysis was applied to assess variable influences. Results indicate that (1) principal instructional leadership, (2) teachers' digital literacy, and (3) teachers' emotional intelligence significantly and positively influence teacher performance. Simultaneously, all three variables significantly influence teacher performance, highlighting their importance in improving educational outcomes.

INTRODUCTION

Education is a fundamental pillar of national development, with teachers playing a crucial role in achieving educational goals. Teachers are responsible for instructing, guiding, and motivating students, as outlined in Law No. 14 of 2005. Their performance directly impacts the quality of education, encompassing lesson planning, implementation, and evaluation. Effective teaching requires clear planning, appropriate strategies, and engaging classroom environments. In the modern era, educational challenges have intensified due to technological advancements and global demands. Teacher performance is influenced by various factors, including instructional leadership, digital literacy, and emotional intelligence. Instructional leadership fosters a supportive teaching environment, guiding teachers to enhance their competencies. Digital literacy enables teachers to integrate technology into their instruction, improving efficiency and student engagement. Emotional intelligence contributes to stress management, conflict resolution, and effective communication, ultimately enhancing classroom dynamics. However, preliminary observations in public elementary schools in Siak Hulu District indicate gaps in these areas, affecting teacher performance. Many teachers struggle with digital literacy, receive limited instructional leadership support, and face challenges in managing emotions and student behavior. Given these concerns, this study examines the influence of instructional leadership, digital literacy, and emotional intelligence—both individually and collectively—on teacher performance in Siak Hulu District public elementary schools.

LITERATURE REVIEW

Teacher performance is crucial in achieving educational goals and can be understood through various theories. Boyatzis' Competency Theory (1982) states that performance is influenced by three key elements: competence, motivation, and organizational support. In the teaching context, competence includes pedagogical knowledge, professional skills, adaptability to curriculum changes or technology, and social-emotional skills such as communication with students, parents, and colleagues. Riduwan (2019) defines teacher performance as the behavior demonstrated while performing professional duties, while Asf & Mustofa (2019) highlight that it results from expertise, experience, and dedication.

B.F. Skinner's Reinforcement Theory (1953) suggests that work behavior can be enhanced through positive and negative reinforcement. In education, school principals play a key role in reinforcing teachers' motivation by providing recognition and incentives for high performance. Instructional leadership focuses on managing and improving the learning process. Hallinger & Murphy (1985) identify three core dimensions: setting clear school missions, managing effective learning programs, and creating a conducive learning environment. Glickman (1985) emphasizes direct interaction with teachers for professional development, while Leithwood & Duke (1999) stress motivation, support, and opportunities for teachers to enhance their competencies.

Digital literacy involves knowledge and skills in utilizing digital media, communication tools, and the internet. Suherdi (2021) defines it as the ability to

use digital media effectively. Hague & Payton (2019) highlight functional digital skills such as critical thinking, creativity, and collaboration. Digital literacy also involves ethical online behavior, privacy awareness, and the ability to use technology in academic and professional settings (Atmazaki, 2019).

Emotional intelligence refers to the ability to recognize, understand, and manage emotions. Goleman (1995) outlines five components: self-awareness, self-regulation, motivation, empathy, and social skills. Mayer & Salovey (1997) categorize it into four aspects: emotion perception, facilitation, understanding, and regulation. Emotional intelligence supports effective communication, decision-making, and relationship-building. This study examines how instructional leadership, digital literacy, and emotional intelligence influence teacher performance, contributing to quality education.

METHODS

This study was conducted at public elementary schools in Siak Hulu District from June to December 2024. The population consisted of 496 public elementary school teachers in the district. The sample size was determined using the Krejcie and Morgan method (Uma Sekaran, 2018), resulting in a total of 221 teachers. The study examined four key variables: teacher performance, instructional leadership of school principals, teachers' digital literacy, and teachers' emotional intelligence. Data were collected through field research using a structured questionnaire. A closed-ended questionnaire was employed to facilitate responses and optimize data collection efficiency. The questionnaire measured the influence of independent variables on the dependent variable using a Likert scale, with both positive and negative statements to assess respondents' attitudes. Once the data were collected, they were analyzed using appropriate and easily interpretable methods to derive meaningful conclusions. The data analysis techniques included descriptive analysis, inferential statistical analysis, multiple linear regression, and hypothesis testing.

RESULTS AND DISCUSSION

A. Descriptive Analysis

1. Principal Instructional Leadership (X_1)

This variable was measured using a questionnaire consisting of 14 items. This instrument was administered to 265 respondents.

Table 1. The descriptive statistics of principal instructional leadership

DESCRIPTIVE STATISTIC	
N	265
Mean	22.9396
Median	56.0000
Mode	55.00
Std. Deviation	4.04194
Variance	41.00
Range	66.00
Minimum	56.0000
Maximum	55.00

The descriptive analysis shows that the instructional leadership variable, based on 265 respondents, has a mean score of 55.94. The median is 56.00, indicating that half of the respondents scored above and half below this value, while the mode of 55.00 is the most frequent score. The standard deviation of 4.04194 indicates low data dispersion, with a variance of 41.00. The range is 66, with minimum and maximum scores of 55 and 56, respectively.

2. Teacher Digital Literacy (X_2)

The descriptive analysis shows that the mean digital literacy score of teachers is 56.50, indicating the average literacy level among respondents. The median is 57.00, meaning half scored below and half above this value, while the most frequent score (mode) is 58.00. The standard deviation of 4.05467 reflects data dispersion, with a variance of 16.440. The range is 25, with minimum and maximum scores of 41.00 and 66.00, respectively.

Table 2. The descriptive statistics of digital literacy

DESCRIPTIVE STATISTIC	
N	265
Mean	56.4981
Median	57.0000
Mode	58.00
Std. Deviation	4.05467
Variance	16.440
Range	25
Minimum	41.00
Maximum	66.00

3. Teacher Emotional Intelligence (X_3)

The descriptive analysis shows that teachers' emotional intelligence has a mean score of 73.24, indicating a generally high level. The median is 74.00, with a mode of 75.00. A standard deviation of 4.56 and variance of 20.80 reflect moderate data dispersion. Scores range from 56.00 to 85.00, suggesting a high and evenly distributed level of emotional intelligence among respondents.

Table 3. The descriptive statistics of teacher emotional intelligence

DESCRIPTIVE STATISTIC	
N	265
Mean	73.2415
Median	74.0000
Mode	75.00
Std. Deviation	4.56043
Variance	20.798
Range	79
Minimum	56.00
Maximum	85.00

4. Teacher Performance (Y)

The mean teacher performance score is 60.57, indicating a generally good performance level. The median is 61.00, meaning half of the respondents scored below or equal to 61, while the other half scored above. The most frequent score (mode) is 62. A standard deviation of 4.17 reflects data dispersion around the mean, while a variance of 17.36 indicates variability in teacher performance.

Table 3. The descriptive statistics of teacher performance

DESCRIPTIVE STATISTIC	
N	265
Mean	60.5736
Median	61.0000
Mode	62.00
Std. Deviation	4.16643
Variance	17.359
Range	27
Minimum	45.00
Maximum	72.00

B. Preliminary Testing

The normality test was conducted using the Kolmogorov-Smirnov method with SPSS version 25 at a 5% significance level to evaluate whether the data followed a normal distribution. The results indicated that all research variables met the normality assumption. The significance values (Sig.) for Teacher Performance (0.120), Instructional Leadership (0.100), Digital Literacy (0.090), and Emotional Intelligence (0.120) were all greater than 0.05, confirming normal data distribution. These findings support further statistical analysis by ensuring the validity of the normality assumption.

The linearity test examined whether there was a linear relationship between independent and dependent variables. By comparing the significance value of deviation from linearity with the 0.05 threshold, the results confirmed linear relationships among all tested variables. The relationships between Teacher Performance and Instructional Leadership (Sig. = 0.149), Digital Literacy (Sig. = 0.268), and Emotional Intelligence (Sig. = 0.064) all met the linearity assumption (Sig. ≥ 0.05). Thus, the data supports the use of linear regression analysis.

C. Hypothesis Testing

1. Linear Regression

1) Principal Instructional Leadership

The simple regression analysis resulted in the equation $\hat{Y} = 43.503 + 0.305X1$. The constant value of 43.503 represents the average teacher performance when the instructional leadership variable is zero. The regression coefficient of 0.296 indicates that a one-unit increase in instructional leadership improves teacher performance by 0.296 units.

The first hypothesis test (H_1) examined the effect of instructional leadership on teacher performance in SD Negeri Kecamatan Siak Hulu. The significance value of 0.000, which is lower than 0.05, led to the rejection of H_0 and acceptance of H_a. This confirms that instructional leadership has a positive and significant impact on teacher performance, highlighting its crucial role in enhancing teacher effectiveness.

Table 4. The influence of principal instructional leadership on teacher performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	43.503	3.405		12.776	.000
	Principal Instructional Leadership	.305	.061	.296	5.026	.000
a. Dependent Variable: Teacher Performance						

2) Teacher Digital Literacy

The simple regression analysis resulted in the equation $\hat{Y} = 25.853 + 0.615X2$. The constant value of 25.853 represents the average teacher performance when the digital literacy variable is zero. The regression coefficient of 0.598 indicates that a one-unit increase in digital literacy improves teacher performance by 0.598 units.

The hypothesis test (H_2) yielded a significance value of 0.000, which is lower than 0.05, leading to the rejection of H_0 and acceptance of H_a. This confirms that digital literacy has a positive and significant impact on teacher performance. Thus, digital literacy is a crucial factor in enhancing teacher effectiveness in SD Negeri Kecamatan Siak Hulu.

Table 5. The influence of teacher digital literacy on teacher performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.853	2.876		8.988	.000
	Teacher Digital Literacy	.615	.051	.598	12.102	.000

a. Dependent Variable: Teacher Performance

3) Teacher Emotional Intelligence

The simple regression analysis resulted in the equation $\hat{Y}$ = 47.150 + 0.183X3. The constant value of 47.150 represents the average teacher performance when the emotional intelligence variable is zero. The regression coefficient of 0.201 indicates that a one-unit increase in emotional intelligence improves teacher performance by 0.201 units.

The hypothesis test (H3) yielded a significance value of 0.001, which is lower than 0.05, leading to the rejection of H_0 and acceptance of H_a. This confirms that emotional intelligence has a positive and significant impact on teacher performance. Thus, emotional intelligence is a key factor in enhancing teacher effectiveness in SD Negeri Kecamatan Siak Hulu.

Table 5. The influence of teacher emotional intelligence on teacher performance

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	47.150	4.050		11.642	.000
	Teacher Emotional Intelligence	.183	.055	.201	3.321	.001
a. Dependent Variable: Teacher Performance						

2. Multiple Regression

The multiple linear regression analysis was conducted to evaluate the influence of instructional leadership, digital literacy, and emotional intelligence on teacher performance. Based on the table below, the constant (a) is 29.420, indicating that if instructional leadership (X_1), digital literacy (X_2), and emotional intelligence (X_3) have no effect (zero), the teacher performance score would be 29.420.

The regression coefficient for instructional leadership (X_1) is 0.069, meaning a one-unit increase in instructional leadership improves teacher performance by 0.069, though the effect is not significant (Sig. = 0.255 > 0.05). The regression coefficient for digital literacy (X_2) is 0.654, indicating a significant positive impact, as a one-unit increase in digital literacy raises teacher performance by 0.654 (Sig. = 0.000 < 0.05). Similarly, the regression coefficient (b3) for emotional intelligence (X_3) is 0.133, showing that a one-

unit increase in emotional intelligence improves teacher performance by 0.133, with a significant effect (Sig. = 0.017 < 0.05).

Table 6. The result of multiple regression analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.420	3.705		7.941	.000
	Principal Instructional Leadership	.071	.062	.069	1.141	.255
	Teacher Digital Literacy	.654	.061	.637	10.807	.000
	Teacher Emotional Intelligence	.133	.055	.146	2.408	.017
a. Dependent Variable: Teacher Performance						

3. Coefficient Determination

Based on the Model Summary table below, the R value is 0.610, indicating a moderately strong relationship between the independent variables (Instructional Leadership, Digital Literacy, and Emotional Intelligence) and the dependent variable (Teacher Performance). The R Square value of 0.372 suggests that 37.2% of the variation in Teacher Performance can be explained by the independent variables in this model. Meanwhile, the Adjusted R Square value of 0.365 represents the adjusted coefficient, accounting for the number of variables in the model.

Table 7. The result of the coefficient determination

Model Summary				
	R	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.610[a]	.372	.365	3.32120
a. Dependent Variable: Teacher performance b. Predictors: (Constant), Teacher Emotional Intelligence, Teacher Digital Literacy, Principal Instructional Leadership				

D. Discussions

1. The influence of principal intructional leadership on teacher performance

   The linear regression analysis confirms that instructional leadership significantly influences elementary school teacher performance in Siak Hulu District, with a significance value of 0.000 (< 0.05), rejecting H_0 and accepting H_a. This highlights the crucial role of instructional leadership in fostering teacher effectiveness through clear direction, motivation, and instructional support. Effective instructional leadership enhances teacher performance by creating a supportive work environment. Research shows that principals who actively provide feedback and promote professional development improve teaching effectiveness, reinforcing the link between strong leadership and higher teacher performance. These findings align with Hasibuan (2017), who found a strong correlation between instructional leadership and teacher performance, emphasizing the importance of constructive feedback and professional growth. Similarly, Sudirman (2019) concluded that instructional leadership strengthens school climate by setting clear goals and ensuring adequate resources, enhancing teacher commitment and instructional quality.
2. The influnce of teacher digital literacy on teacher performance

   The linear regression analysis confirms that digital literacy has a positive and significant influe on teacher performance in Siak Hulu District elementary schools (Sig. = 0.000 < 0.05). This underscores the crucial role of digital literacy in enhancing teaching effectiveness, enabling teachers to access resources, manage online classes, and implement innovative methods. These findings align with Warsita (2019) and Sukardi & Rahman (2020), who highlight that high digital literacy improves adaptability, lesson planning, and student engagement. Therefore, continuous training is essential to maximize technology integration in education.
3. The influence of teacher emotional intelligence on teacher performance

   The linear regression analysis confirms that emotional intelligence has a positive and significant influence on teacher performance in Siak Hulu District elementary schools (Sig. = 0.001 < 0.05). Teachers with high emotional intelligence effectively manage emotions, build strong interpersonal relationships, and enhance their performance. This aligns with Goleman (2005), who emphasizes emotional intelligence as a key factor in professional success, particularly in fostering a positive learning environment. Similarly, Maharani & Widyastuti (2017) highlight its role in classroom management, conflict resolution, and student engagement, ultimately improving teaching effectiveness.
4. The influence of principal instructional leadership, teacher digital literacy, and teacher emotional intelligence on teacher performance in SD Negeri Kecamatan Siak Hulu

   The F-test results indicate a significance value of 0.000 (< 0.05), confirming that instructional leadership, digital literacy, and emotional intelligence collectively have a significant influence on teacher performance in Siak Hulu District elementary schools. This finding aligns

with Hariri et al. (2016), who emphasize the role of instructional leadership in fostering a professional work culture, and Sholikhah & Jatmiko (2020), who highlight the combined influence of digital literacy and emotional intelligence on teaching effectiveness. Effective school leadership provides direction, motivation, and support, while digital literacy enhances teachers' ability to integrate technology into their teaching. Additionally, emotional intelligence enables teachers to build positive relationships with students and manage classroom dynamics effectively.

The synergy between these three factors underscores the importance of a holistic approach to improving teacher performance. Schools should prioritize professional development programs that enhance instructional leadership, digital competency, and emotional intelligence. Providing continuous training, fostering collaborative learning communities, and ensuring access to digital resources will create a supportive environment for teacher growth. Strengthening these aspects will ultimately contribute to higher teaching effectiveness and improved student learning outcomes in Siak Hulu District elementary schools.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis and discussion in this study, the following conclusions can be drawn. The first hypothesis (H_1) test shows a significance value of 0.000, which is less than 0.05, indicating that H_0 is rejected and H_a is accepted. This confirms that instructional leadership has a positive and significant influence on teacher performance in Siak Hulu District elementary schools. Similarly, the second hypothesis (H_2) test results in a significance value of 0.000 (< 0.05), leading to the conclusion that teachers' digital literacy positively and significantly affects their performance. The third hypothesis (H_3) test yields a significance value of 0.001 (< 0.05), supporting the conclusion that teachers' emotional intelligence has a positive and significant impact on their performance. Additionally, the F-test results indicate a significance value of 0.000, confirming that instructional leadership, digital literacy, and emotional intelligence collectively have a significant simultaneous effect on teacher performance.

Additionally, several recommendations are proposed. School principals should enhance their instructional leadership quality by providing clear guidance, fostering innovation in teaching, and creating a collaborative work environment. They should also facilitate relevant training programs for teachers. Teachers are encouraged to continuously develop their digital literacy through participation in educational technology training, self-directed learning, and the creative integration of technology into their teaching practices. Additionally, teachers should cultivate emotional intelligence by building self-awareness, managing stress effectively, and fostering positive interpersonal relationships with students, colleagues, and parents. Future researchers are advised to expand the scope of the study to cover a broader population and consider additional variables such as work motivation, organizational culture, or teacher well-being

to gain a more comprehensive understanding of the factors influencing teacher performance.

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