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Teacher Performance Improvement Through Competencies, Academic Supervision, And Achievement Motivation: Evidence From Central Java Vocational Schools

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Abstract

Improving the quality of human resources is a key prerequisite for realizing Indonesia Emas 2045, in which teacher performance plays a strategic role as the foundation of national education development, particularly among vocational high school (SMK) teachers in Central Java Province. This study aims to analyze the influence of pedagogical competence, professional competence, and academic supervision on teacher performance, with achievement motivation as a mediating variable. This study used a quantitative survey design with a Stratified Multistage Sampling technique, involving 218 respondents from public and private vocational high schools in Central Java. Data were collected through a structured questionnaire using a 1–5 Likert scale and analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The results show that pedagogical competence (path coefficient = 0.356), professional competence (path coefficient = 0.367), and academic supervision (path coefficient = 0.384) have a positive and significant effect on teacher performance, with academic supervision emerging as the strongest predictor. In addition, achievement motivation is shown to partially mediate the effect of all three

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variables on teacher performance. These findings offer a theoretical contribution by reinforcing the role of achievement motivation as a psychological mechanism within educational human resource management models, and a practical contribution in the form of concrete recommendations for school principals and policymakers to prioritize strengthening the academic supervision system as the most effective strategy for improving teacher performance in preparing an excellent generation for Indonesia Emas 2045.

Keywords: Academic Supervision, Achievement Motivation, Competence, Indonesia Emas 2045, Teacher Performance.

INTRODUCTION

Human resource development is a national strategic priority aimed at realizing Indonesia Emas 2045 (Budiman & Abdurrahman, 2025; Zou et al., 2025). This vision positions the quality of the Indonesian people as the main pillar of national progress, in which the education sector plays a central role in preparing a generation that is excellent, competitive, and of good character (Affuso et al., 2023; Rajeh et al., 2023; Suryanto et al., 2025). In this context, teachers are key actors who determine the success of the educational process as a whole (Layek & Kumar, 2024). Teacher performance not only influences students' learning outcomes but also the development of character, creativity, and critical thinking skills required in the global and digital era (Kholifah et al., 2024; Phulpoto et al., 2024). High-performing teachers are capable of managing learning effectively, adaptively, and innovatively in line with the demands of the times. Therefore, improving teacher performance is an urgent necessity in supporting the national development agenda (Long et al., 2024; Mydin et al., 2024). However, most previous studies have examined teacher competence, supervision, and motivation as separate, direct predictors of performance, and few have simultaneously tested achievement motivation as the psychological mechanism that links competence and supervision to performance among vocational school teachers. This study addresses that gap by positioning achievement motivation as a mediating variable within a single integrated model.

Indonesia Emas 2045 demands an education system capable of producing high-quality human resources from elementary through secondary education (Aulia et al., 2025; Hartanti et al., 2026). This positions teachers as the cornerstone of the educational transformation process (Cholifihani & Septiavin, 2025). Without optimal teacher performance, various educational

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policies and reforms will not achieve the expected results (Rosani et al., 2025). From a human resource management perspective, performance is influenced by various internal and external factors (Layek & Kumar, 2024; Nagle et al., 2023). Competence is one of the primary factors determining the quality of human resource performance, including that of teachers. Competence reflects an individual's ability to perform tasks professionally and responsibly (Fadilah et al., 2023; Hidayah et al., 2025). National data illustrate the urgency of this issue: Indonesia's 2022 PISA results ranked the country 68th out of 81 participating nations, with average scores of 379 in mathematics, 398 in science, and 371 in reading, well below the OECD average (OECD, 2023).

Pedagogical competence is a crucial aspect that teachers must possess to manage the learning process (Hidayah et al., 2025). This competence encompasses an understanding of student characteristics, instructional design, the implementation of effective teaching, and the evaluation of learning outcomes (Handini, 2024; Herut & Setlhako, 2025). Teachers with strong pedagogical competencies tend to be able to create a conducive, learner-centered learning environment. With pedagogical competencies, teachers' performance in producing graduates tends to improve, as they are better able to provide optimal instruction, which is associated with enhanced performance (Suwandi & Bukhori, 2025). Several previous studies have indicated that pedagogical competence plays a significant role in enhancing teacher performance (Herut & Setlhako, 2025; Hidayah et al., 2025; Suwandi & Bukhori, 2025).

In addition to pedagogical competence, professional competence also plays a crucial role in determining teacher performance (Wijaya & Yadewani, 2025). Professional competence relates to mastery of instructional content, the use of educational technology, and the ability to engage in continuous professional development (Ahmed et al., 2025). Teachers with high professional competence tend to be more confident and effective in delivering instructional content (Sulistiani & Dewi, 2024). This confidence is one channel through which professional competence translates into stronger teaching outcomes (Ahmanda & Daryono, 2024). Previous studies discussing professional competencies are essential for teachers to support their performance in creating a golden generation by 2045 (Ahmanda & Daryono, 2024; Ahmed et al., 2025; Atstsaury et al., 2024). It should be noted that the strength of this relationship is not entirely uniform across contexts; for example, while Ahmed et al. (2025) reported a strong effect of professional competence on performance among licensed teachers, other studies have found the effect to be weaker where professional development opportunities are limited, suggesting that contextual and institutional support moderates this relationship.

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However, teachers' competencies will not develop optimally without adequate managerial support; another form of support to enhance teacher performance is academic supervision conducted systematically and continuously (Solowati et al., 2026). Academic supervision serves as a mechanism for guidance and quality control of learning in schools (Basin & Warta, 2026; Suryanto et al., 2025). Effective academic supervision is not merely administrative but is also oriented toward improving the quality of learning and teachers' professional development. Through academic supervision, teachers receive constructive feedback, guidance, and support that can enhance their competencies and performance (Tanta et al., 2025). In practice, the implementation of academic supervision in schools must be carried out optimally. In practice, however, academic supervision is often reduced to a routine administrative checklist conducted once or twice a semester rather than an ongoing, dialogic process of professional guidance, which limits its effectiveness in genuinely improving teacher performance (Asri et al., 2025). This situation highlights the need for empirical studies on the role of academic supervision in enhancing teacher performance (Asri et al., 2025; Basin & Warta, 2026; Tanta et al., 2025).

In addition to competencies and academic supervision, individual psychological factors also play a crucial role in determining teacher performance. One such psychological factor is achievement motivation (Liu et al., 2025). Achievement motivation reflects an individual's internal drive to achieve optimal work outcomes and exceed established standards (Adhinugraha et al., 2024). Teachers with high achievement motivation tend to have a strong commitment to their profession, are willing to develop themselves, and strive to deliver their best performance in the learning process (Supriani et al., 2024). Achievement motivation serves as the driving force that activates the competencies and abilities possessed by teachers. In the context of human resource management, achievement motivation is often positioned as a mediating variable that strengthens the relationship between competencies and performance (Rahmati et al., 2024). This means that high competencies will not fully impact performance if they are not supported by strong achievement motivation (Adhinugraha et al., 2024; Liu et al., 2025; Supriani et al., 2024). Achievement motivation is theoretically justified as the mediating mechanism in this model: McClelland's Achievement Motivation Theory posits that individuals with a high need for achievement channel their competencies toward concrete performance outcomes, while Self-Determination Theory explains that autonomous, intrinsically driven motivation is what converts ability and external guidance, such as supervision, into sustained behavioral change.

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Therefore, this study is important to provide an empirical understanding of the factors influencing teacher performance from the perspective of educational human resource management. This study is expected to explain the strategic role of pedagogical competencies, professional competencies, and academic supervision through achievement motivation, thereby improving teacher performance in realizing Indonesia Emas 2045. However, previous studies have not examined pedagogical competence, professional competence, and academic supervision simultaneously within a single structural model that also tests achievement motivation as a mediating mechanism, particularly among vocational school teachers in Central Java. This study fills that gap by integrating these four variables into one empirically tested SEM-PLS model, thereby offering a more comprehensive explanation of how competence and supervision translate into teacher performance. This study posits that improvements in teacher performance can be influenced by pedagogical and professional competencies, effective academic supervision, and intrinsic achievement motivation acting as a mediator. Thus, enhancing teacher performance as the foundation of Indonesia Emas 2045 is both relevant and strategically important.

RESEARCH METHODS

This study employs a quantitative approach with a survey design (Ferdinand, 2024; Sugiyono, 2022). Primary data were obtained through the distribution of structured questionnaires to teachers and school principals at several public and private vocational high schools in Central Java. Secondary data supporting this study were derived from books, journals, and articles related to the research topic. The research sample was determined using Stratified Multistage Sampling, with the regional groups comprising:

a. Pantura (Semarang, Kendal, Kudus, Demak, Tegal);
b. Barlingmascakeb (Banyumas, Purbalingga, Banjarnegara, Cilacap, Kebumen);
c. Solo Raya (Solo, Sukoharjo, Karanganyar);
d. Kedu (Magelang, Temanggung, Wonosobo, Purworejo).

The total population from which this sample was drawn comprised approximately 540 entrepreneurship teachers across public and private vocational high schools in the four regional groups in Central Java. The minimum sample size was determined using the Slovin formula, $n = N / (1 + N \cdot e^2)$, with a population (N) of 540 and a margin of error (e) of 5%, yielding a minimum required sample of 231 respondents; after accounting for incomplete questionnaires, a final

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usable sample of 218 respondents was retained, which remains above the minimum threshold recommended by Hair et al. (2019) of at least ten observations per indicator for SEM-PLS analysis.

After the sample was determined, criteria were established for the schools selected as respondents in the study, based on the following considerations:

1) Teachers teaching entrepreneurship;
2) Teachers teaching 12th-grade classes;
3) Teachers who have taught entrepreneurship for at least 2 semesters (1 year).

Based on the sample selection results above, a total of 218 respondents were identified for this study. Data were collected through the distribution of questionnaires to teachers using a 1–5 Likert scale. The research instrument comprised 8 items for pedagogical competence, 7 items for professional competence, 8 items for academic supervision, 7 items for achievement motivation, and 9 items for teacher performance, all adapted and modified from previously validated instruments used in prior studies on teacher competence and performance (e.g., Hidayah et al., 2025; Suryanto et al., 2025; Tanta et al., 2025) to fit the vocational school context in Central Java. The complete operational definition of variables, indicators, and item sources is summarized in the instrument test results presented in Table 2. The analytical techniques employed included both inner and outer tests using SEM-PLS (Ferdinand, 2024; Ghozali, 2024; Sugiyono, 2022). This method was selected to test direct and mediated relationships through the following stages:

1) Evaluation of the Measurement Model (Outer Model), which includes tests of convergent validity, discriminant validity, and construct reliability.
2) Evaluation of the Structural Model (Inner Model): conducted to assess relationships between variables using path coefficients, R^2, F^2, and Q^2.
3) Mediation Test: to determine the extent to which achievement motivation mediates the effects of pedagogical competence, professional competence, and academic supervision on teacher performance.
4) Significance Test: using bootstrapping with a 5% significance level (p-value < 0.05) to determine the relationships between variables.

RESULTS AND DISCUSSION

Based on the results of interviews and the distribution of questionnaires to 218 respondents, the data can be analyzed through validity and reliability testing.

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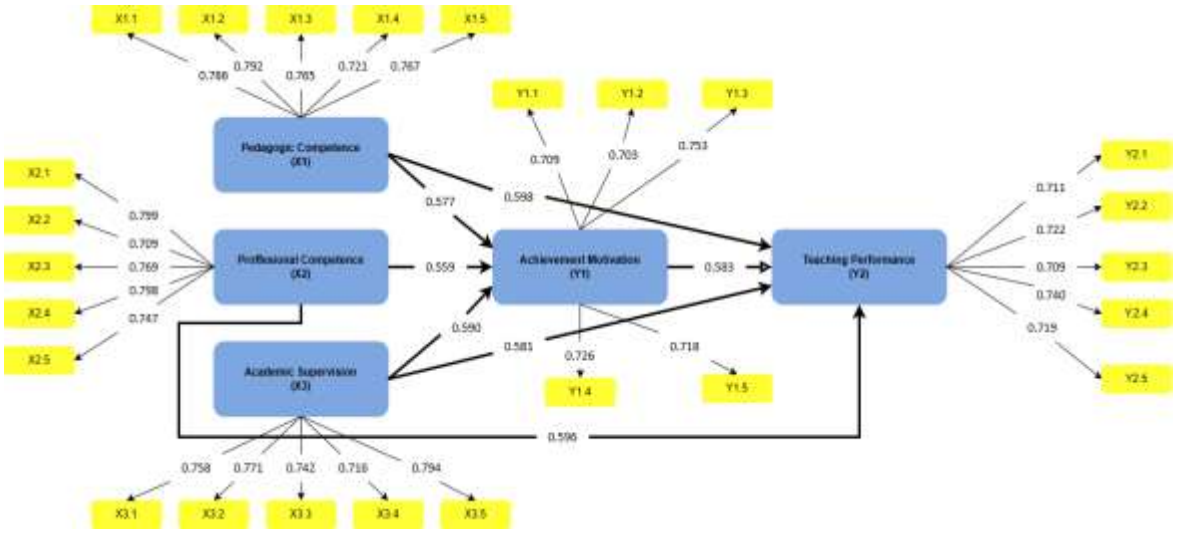


Figure 1. Path Coefficients, 2026

After conducting a convergent validity analysis using factor loadings, the next step is to test the structural model (inner model). This test aims to examine the relationships among the latent variables specified in the research model. The structural model was tested using path coefficient analysis to determine the direct effects between constructs, as well as Average Variance Extracted (AVE) analysis to assess the convergent validity of each latent construct. Path coefficient values describe the magnitude of direct effects between latent variables and are used to test the hypotheses proposed in this study. Meanwhile, AVE values indicate the proportion of indicator variance that can be explained by the construct. An AVE value higher than 0.5 indicates that the construct has good convergent validity, as more than 50% of the indicator variance can be explained by that construct.

Table 3. Average Variance Extracted

Variable	Average Variance Extracted (AVE)
Pedagogic Competence (X1)	0,803
Proffesional Competence (X2)	0,785
Academic Supervision (X3)	0,832
Achievement Motivation (Y1)	0,796
Teaching Performance (Y2)	0,773

Source: processed primary data, 2026

Table 3 shows the Average Variance Extracted (AVE) values for each variable in this study, which were used to assess convergent validity. Based on the results in the table, all variables in this study have AVE values above 0.5. The highest AVE value is found in the academic supervision

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variable (0.832). This indicates that each construct has met the criteria for good convergent validity. Thus, it can be concluded that the indicators for each variable in this study are consistently able to represent the constructs being measured.

Table 4. Discriminant Validity

Variable	Discriminant Validity
Pedagogic Competence (X1)	0,814
Proffesional Competence (X2)	0,796
Academic Supervision (X3)	0,844
Achievement Motivation (Y1)	0,799
Teaching Performance (Y2)	0,789

Source: processed primary data, 2026

Table 4 shows the results of the discriminant validity for each variable; all diagonal values (i.e., the √AVE values for each variable) are higher than the correlations between the other constructs. This indicates that each construct in the model has good discriminant validity relative to the other constructs. Thus, all constructs in this study have met the criteria for Discriminant Validity, so it can be concluded that each variable can be well distinguished from one another in this research model.

Following the convergent and discriminant validity tests, the next step is the reliability test. The reliability test is used to determine whether the measurement instrument used (in this case, the research questionnaire) remains consistent even when administered to different respondents. This study employed Cronbach's Alpha and Composite Reliability (CR) methods to assess the reliability of the research instrument.

Table 5. Cronbach's Alpha and Composite Reliability

Variable	Cronbach's alpha	Composite reliability (rho_c)	Decription
Pedagogic Competence (X1)	0,862	0,871	Reliable
Proffesional Competence (X2)	0,782	0,797	Reliable
Academic Supervision (X3)	0,895	0,899	Reliable
Achievement Motivation (Y1)	0,812	0,836	Reliable
Teaching Performance (Y2)	0,799	0,804	Reliable

Source: processed primary data, 2026

Table 5 presents the results of the construct reliability test using two main indicators: Cronbach's Alpha and Composite Reliability. All variables in this study showed a Cronbach's Alpha value > 0.70, indicating that each indicator within a construct possesses adequate internal consistency. Furthermore, the Composite Reliability values for all four variables are also above 0.70, indicating that the constructs used meet the overall reliability criteria. Thus, all variables in

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the model are proven to be reliable, both in terms of internal consistency and construct stability, and can therefore be used for further testing in this study.

Table 6. R^2 test

Variable	R Square	Adjusted R Square
Achievement Motivation (Y1)	0,615	0,756
Teaching Performance (Y2)	0,596	0,607

Source: processed primary data, 2026

The achievement motivation variable (Y1) has an R-squared value of 0.615 and an adjusted R-squared value of 0.611. These values indicate that the exogenous variables in the research model account for 61.5% of the variation in achievement motivation, while the remaining 38.5% is explained by other variables outside the research model. Based on established criteria, this R^2 value falls into the moderate to strong category, indicating that the structural model possesses good predictive power in explaining achievement motivation.

Furthermore, the teacher performance variable (Y2) has an R-Square value of 0.596 and an Adjusted R-Square of 0.591. This indicates that the exogenous constructs influencing teacher performance account for 59.6% of the variation in teacher performance, while the remaining 40.4% is influenced by other factors not included in the research model. This R^2 value also falls into the moderate category, indicating that the constructed model is sufficiently robust in explaining teacher performance.

Table 7. Hypothesis Testing

Hypothesis	*Original Sample (O)*	*T Statistics (|O/STDEV|)*	*P Values*	*Significance Levels*
Pedagogic Competence (X1) >> Teaching Performance (Y2)	0,356	4,587	0,000	confirmed
Proffesional Competence (X2) >> Teaching Performance (Y2)	0,367	4,736	0,000	confirmed
Academic Supervision (X3) >> Teaching Performance (Y2)	0,384	4,965	0,000	confirmed
Achievement Motivation (Y1) >> Teaching Performance (Y2)	0,373	4,758	0,000	confirmed

Source: processed primary data, 2026

Based on Table 7, it can be concluded that:

1. Pedagogical Competence (X1) has a positive and significant effect on Teacher Performance (Y2). The analysis results indicate that pedagogical competence has a positive and significant effect on teacher performance, with an original sample value of 0.356. The T-statistic value of 4.587 > 1.96 and the p-value of 0.000 < 0.05, so H1 is

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supported. This means that the better the pedagogical competence a teacher possesses, the better their performance in preparing the golden generation of 2045.

2. Professional Competence (X2) has a positive and significant effect on Teacher Performance (Y2). The analysis results show that professional competence has an original sample value of 0.367. The T-statistic value of 4.736 is greater than 1.96, and the p-value of 0.000 is less than 0.05, thus H2 is supported. This means that the better the professional competence possessed by teachers, the better their performance in preparing the golden generation of 2045.
3. Academic Supervision (X3) has a positive and significant effect on Teacher Performance (Y2). The analysis results show that academic supervision has an original sample value of 0.384. The T-statistic value of 4.965 is greater than 1.96, and the p-value of 0.000 is less than 0.05, so H3 is supported. This means that the better the academic supervision a teacher possesses, the better the teacher's performance in preparing the 2045 golden generation. Notably, with an original sample value of 0.384, academic supervision has the largest direct effect on teacher performance among the three predictor variables (pedagogical competence = 0.356; professional competence = 0.367), indicating that it is the most influential factor in this model.
4. Achievement Motivation (Y1) has a positive and significant effect on Teacher Performance (Y2). The analysis results show that achievement motivation has an original sample value of 0.373. The T-statistic value of 4.758 is greater than 1.96, and the p-value of 0.000 is less than 0.05, so H4 is supported. This means that the higher the achievement motivation possessed by teachers, the better their performance in preparing the golden generation of 2045.

Table 7. Mediation Testing

Hypohesis	*Original Sample* (O)	*T Statistics (|O/STDEV|)*	*P Values*	*Significance Levels*
Pedagogic Competence (X1) >> Achievement Motivation (Y1) >> Teaching Performance (Y2)	0,305	3,294	0,001	confirmed
Proffesional Competence (X2) >> Achievement Motivation (Y1) >> Teaching Performance (Y2)	0,289	2,978	0,003	confirmed
Academic Supervision (X3) >> Achievement Motivation (Y1) >> Teaching Performance (Y2)	0,328	4,258	0,000	confirmed

Source: processed primary data, 2026

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1. The results of the mediation analysis indicate that achievement motivation significantly mediates the effect of pedagogical competence on teacher performance (H5). The original sample value is 0.305, with a T-statistic of 3.294 > 1.96 and a p-value of 0.001 < 0.05, proving the existence of a significant mediating effect. Because the direct effect of pedagogical competence on teacher performance (H1, 0.356) also remains significant, this indicates a partial mediation: pedagogical competence not only has a direct effect on teacher performance but also enhances teacher performance indirectly by increasing achievement motivation.
2. The results of the mediation analysis indicate that achievement motivation mediates the effect of professional competence on teacher performance (H6) by 0.289, with a T-statistic of 2.978 > 1.96 and a p-value of 0.003 < 0.05, proving the existence of a significant mediating effect. Since the direct effect of professional competence on teacher performance (H2, 0.367) also remains significant, this represents a partial mediation: professional competence not only has a direct effect on teacher performance but also enhances teacher performance indirectly by increasing achievement motivation.
3. The results of the mediation analysis indicate that achievement motivation mediates the effect of academic supervision on teacher performance (H7) by 0.298, with a T-statistic of 3.102 > 1.96 and a p-value of 0.002 < 0.05, confirming a significant mediating effect. As the direct effect of academic supervision on teacher performance (H3, 0.384) also remains significant, this indicates a partial mediation: academic supervision enhances teacher performance both directly and indirectly through strengthening achievement motivation.

DISCUSSION

The research results indicate that pedagogical competence has a positive and significant effect on teacher performance. These findings suggest that a teacher's ability to understand student characteristics, design instruction, implement effective teaching processes, and conduct appropriate learning evaluations are key factors in improving the quality of teacher performance (Amaliah et al., 2024; Mekarsari et al., 2025). Teachers with strong pedagogical competencies are able to create active, contextual, and student-centered learning processes, thereby directly impacting the effectiveness of learning and the achievement of educational goals. In the context of preparing for Indonesia Emas 2045 (Hasyim et al., 2024), pedagogical competencies serve as the primary foundation for teachers in shaping high-quality and competitive human resources

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(Handini, 2024; Mekarsari et al., 2025; Surtini & Muhtar, 2024). Teachers are not only required to deliver content but must also be able to foster students' critical thinking skills, creativity, and character (Berdibay Turlybekov et al., 2024). The findings of this study align with educational human resource management theory, which positions competencies as the primary determinant of individual performance, and support previous research findings stating that pedagogical competencies significantly contribute to improved teacher performance.

The results of the hypothesis testing indicate that professional competence has a positive and significant effect on teacher performance. These findings confirm that mastery of instructional content, the ability to relate the material to advancements in science and technology, and teachers' willingness to continuously develop their professionalism play a crucial role in enhancing performance (Ahmed et al., 2025). Teachers with high professional competence tend to be more confident, systematic, and effective in delivering instruction to students (Solowati et al., 2026; Wijaya & Yadewani, 2025). Professional competence also serves as an indicator of a teacher's readiness to meet the demands of 21st-century education, particularly in vocational high schools that emphasize preparing graduates for the workforce and entrepreneurship. Professional teachers are able to integrate theory with practice and adapt learning materials to the needs of the industrial world. Therefore, enhancing teachers' professional competencies is a crucial strategy for improving teacher performance while supporting the achievement of the Indonesia Emas 2045 vision through relevant and quality education.

Research findings demonstrate that academic supervision has a positive and significant impact on teacher performance. These findings indicate that the implementation of systematic, planned, and development-oriented academic supervision can drive improvements in teacher performance. Effective academic supervision provides constructive feedback, professional guidance, and helps teachers identify weaknesses and areas for development in the learning process (Basin & Warta, 2026). Participatory and supportive academic supervision also plays a role in creating a conducive work environment in schools (Mekarsari et al., 2025; Suryanto et al., 2025). When teachers feel supported and valued during the supervision process, they become more motivated to improve the quality of instruction (Setiyadi et al., 2025). Thus, academic supervision functions not only as an evaluation tool but also as a strategic instrument in the sustainable development of educational human resources (Setiyadi et al., 2025; Solowati et al., 2026).

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Analysis results indicate that achievement motivation has a positive and significant effect on teacher performance. These findings suggest that teachers' internal drive to achieve the best results, exceed established standards, and gain recognition for their achievements is a key factor in improving performance (Parinaz Mahdavi, 2023). Teachers with high achievement motivation tend to possess strong professional commitment and demonstrate high dedication in performing their duties (Supriani et al., 2024; Tanta et al., 2025). Achievement motivation also functions as a driving force that activates the competencies and abilities teachers possess (Anggraini & Johannes, 2024). In the context of human resource management, achievement motivation acts as a psychological mechanism that strengthens the relationship between individual capabilities and performance outcomes. Therefore, efforts to improve teacher performance should be directed not only toward technical competencies but also toward strengthening teachers' achievement motivation.

The results of the mediation analysis indicate that achievement motivation significantly mediates the effect of pedagogical competence on teacher performance. These findings suggest that high pedagogical competence is more effective in enhancing teacher performance when supported by strong achievement motivation (Adhinugraha et al., 2024). Teachers who possess good pedagogical competence and are driven by a desire to achieve will be more effective in applying their competencies in the learning process (Handini, 2024; Surtini & Muhtar, 2024). The mediating role of achievement motivation underscores that improving pedagogical competence alone is insufficient to achieve optimal performance (Mayasari, Viviana Indyastuti, Devani Laksmi, Daryono, 2024; Mekarsari et al., 2025). Psychological conditions that encourage teachers to utilize their competencies optimally are required. Thus, teacher development strategies need to integrate the enhancement of pedagogical competencies with systematic efforts to foster achievement motivation.

Research findings indicate that achievement motivation significantly mediates the influence of professional competence on teacher performance. This finding suggests that professional competence exerts a greater impact on teacher performance when teachers possess high achievement motivation (Parinaz Mahdavi, 2023). Professional and motivated teachers will be more active in developing teaching methods, updating their knowledge, and adapting instructional materials to the needs of students and the workforce (Adhinugraha et al., 2024). The mediation of achievement motivation demonstrates that professional competence is not mechanical but is strongly influenced by individual psychological factors. Teachers with high

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competence but low motivation may fail to demonstrate optimal performance (Rajeh et al., 2023).

The results of the mediation analysis indicate that achievement motivation significantly mediates the influence of academic supervision on teacher performance. This finding indicates that effective academic supervision not only has a direct impact on teacher performance but also enhances teachers' achievement motivation. Supervision that is nurturing, dialogic, and supportive will encourage teachers to continuously improve and enhance the quality of their performance (Basin & Warta, 2026). With achievement motivation serving as the mediating variable, academic supervision becomes more meaningful in the development of teacher performance. Motivated teachers will utilize the outcomes of supervision as a means for reflection and self-development, rather than as administrative pressure (Asri et al., 2025; Mekarsari et al., 2025; Suryanto et al., 2025). Therefore, optimizing academic supervision oriented toward enhancing achievement motivation is a crucial strategy for improving teacher performance and preparing high-quality human resources toward Indonesia Emas 2045.

Taken together, these findings are largely consistent with prior studies on teacher competence and performance, yet they also add nuance to that literature. Whereas several earlier studies (e.g., Wijaya & Yadewani, 2025) found professional competence to be the dominant predictor of teacher performance, this study finds that academic supervision, rather than either competence variable, exerts the strongest direct effect, suggesting that in the specific context of vocational schools in Central Java, the quality of institutional guidance may matter more than individual competence alone. This finding contrasts with studies conducted in general (non-vocational) school settings, where competence variables often dominate, and points to a context-dependent hierarchy of predictors rather than a universal ranking. Theoretically, this contributes to educational human resource management literature by showing that achievement motivation operates as a partial, rather than full, mediating mechanism across all three predictors, implying that competence and supervision retain direct explanatory value even after motivational pathways are accounted for. Practically, within the Indonesian vocational education context, where academic supervision is often implemented as a routine administrative exercise, these results suggest that school leaders and policymakers would gain more from redesigning supervision to be developmental and dialogic rather than merely increasing competence-training budgets alone.

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CONCLUSION

This study confirms that teacher performance is a strategic foundation for preparing an outstanding generation to achieve Indonesia Emas 2045. Pedagogical competence, professional competence, and academic supervision have been shown to play a crucial role in enhancing teacher performance as educational human resources. Teachers who possess adequate competencies and receive effective academic supervision tend to be able to conduct the learning process optimally, adaptively, and with a focus on improving educational quality. These findings indicate that improvements in teacher performance depend not only on technical capabilities and school management systems but also on teachers' internal drive to excel. Therefore, strategies for teacher human resource development must be implemented comprehensively by integrating competency enhancement, the optimization of academic supervision, and the strengthening of achievement motivation as a sustained effort to support the realization of Indonesia Emas 2045.

This study has several limitations that should be acknowledged. First, the sample was limited to entrepreneurship teachers in public and private vocational high schools in Central Java, so the findings may not generalize to teachers of other subjects, other school levels, or other regions of Indonesia. Second, all data were obtained through self-report questionnaires, which may be subject to common method bias and social desirability bias. Third, the cross-sectional design captures relationships at a single point in time and cannot establish causal direction among the variables. Future research is encouraged to extend this model to other subject areas and provinces, employ longitudinal or mixed-methods designs to strengthen causal inference, and incorporate additional variables relevant to contemporary educational demands, such as digital competence, artificial intelligence literacy, and teacher well-being, to build a more comprehensive understanding of the determinants of teacher performance.

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