



Effect of Teacher Competency, Motivation, and Welfare on Teacher Performance: Intervening of Teacher Certification

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Abstract

This study aims to analyze the influence of teacher competence, motivation, and welfare on teacher performance with teacher certification as an intervening variable. This study was conducted with teachers in the Teacher Professional Education Program in Economics Education at Semarang State University. This study used a quantitative, survey-based method, involving PPG teachers who had received certification. Data were collected through questionnaires and analyzed using path analysis to test the direct and indirect relationships between variables. The results showed that teacher competence had a positive and significant influence on teacher performance. Motivation also plays an important role in improving teacher performance, both intrinsic and extrinsic motivation. In addition, teacher welfare significantly influences performance, but this relationship is mediated by teacher certification. Teacher certification not only improves teacher welfare but also strengthens the influence of welfare on teacher performance. Competence, motivation, and welfare are important factors that influence teacher performance. Teacher certification acts as an intervening variable, strengthening the impact of welfare on performance. These findings underscore the importance of improving teachers' competence, motivation, and well-being, as well as the need to expand access to certification to support better teacher performance.

How to Cite

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INTRODUCTION

The learning process is an activity carried out by students and teachers in achieving teaching goals. Teachers are one of the components of education that greatly determine the success of learning towards quality education (Ali, 2019; Amatan & Han, 2019; Kartimi et al., 2019). If not supported by experienced teachers, every aspect of education will not provide students with an optimal learning experience. Because teachers are the closest to students in daily education at school and are consistently identified as determinants of student success, they are seen as key factors in learning success (Ismail & Ismail, 2018; Wijiutami et al., 2020).

Cognitive (intellectual) factors, such as mastery of material, affective attitudes such as loving their jobs, and psychomotor (behavior) factors such as the ability to manage classes, assess classes, and evaluate learning outcomes, are part of the teacher's ability to create a communicative and educational atmosphere (Firdaus, 2021; Qorimah & Utama, 2022). Based on Law No. Article 8 of Law No. 14 of 2005 states that a teacher must have four competencies, including: a) personality competency, b) pedagogical competency, c) social competency, and d) professional competency.

Education has an undeniable role in the formation of an intelligent and developed society. Amid the dynamics of the education world, teachers are a key element in conveying knowledge to the younger generation. However, to achieve the goal of quality education, teacher performance is crucial. Teacher performance is influenced by several factors, including teacher competence, motivation, and well-being (Syamsuddin & Ferawati, 2019). Education is one of the main pillars of a country's development. Teachers are a key element in maintaining the quality of education (Safrida et al., 2018). The quality of teachers is not only reflected in their academic abilities, but also in their competence, motivation, and welfare (Dikta, 2020; Matondang, 2019). Teacher Professional Education (PPG) is an important forum in shaping teacher competence and motivation, especially in the field of economic education.

Economic education is an important subject that shapes students' understanding of fundamental economic concepts in everyday life. Therefore, the quality of teachers in this subject is very important in producing a generation that can think economically. Teacher competencies include a deep understanding of the subject matter, the ability to manage the classroom, the ability to

communicate with students and colleagues, and the ability to use various effective teaching methods (Abidin et al., 2020; Maiza & Nurhafizah, 2019). Competent teachers can convey material clearly, respond appropriately to students' needs, and create a conducive learning environment (Santyasa, 2018).

Motivation is an internal drive that drives individuals to achieve goals. Motivated teachers tend to have high enthusiasm for teaching, create innovations in teaching, and are committed to continuous self-improvement (Dewi, 2015; Nur et al., 2023). Teacher motivation also affects their interactions with students, where motivated teachers tend to care more about students' academic and emotional development.

Teacher well-being includes physical, mental, and social aspects. Teachers who feel physically well will have enough energy to carry out teaching tasks (Apandi, 2019; Suganda, 2020). Mental well-being includes job satisfaction, self-confidence, and work-related happiness (Hasanah & Zainuddin, 2024). Meanwhile, social well-being is related to support from colleagues and a positive work environment. Teachers who feel well-being tend to be more productive and contribute positively to the work environment.

Teacher certification has become a focus of attention in efforts to improve the quality of education in various countries, including Indonesia. Teacher certification is an assessment process used to determine whether a teacher meets the competence and qualifications set by established standards (Anggranei, 2020; Fadli et al., 2023). However, there is still debate about the extent to which teacher certification affects their performance. Certification programs to improve teacher quality improve the quality of education. Logically, if good teacher quality is combined with high salaries, teacher performance is also expected to be better. Teachers play a strategic role in education. Even other adequate resources are often meaningless without high-quality teachers. If high-quality teachers do not get adequate support from other supporting resources, teacher performance can also be less than optimal.

Teacher certification/educator certification is often considered the "final answer" to improving professionalism. This is an overly comfortable assumption. Certification is indeed designed as a policy instrument to ensure professional standards and produce certified teachers. However, certification does not automatically change teaching behavior. It can be a reasonable intervening variable (mediator) when understood as a mechanism that: (1) validates competency

mastery (boosting professional efficacy and identity), (2) strengthens commitment and motivation through formal recognition, and (3) opens welfare consequences/career access that make teachers more “capable” of sustainably maintaining quality performance. If these mechanisms fail, certification can dangerously degenerate into an administrative status that has little impact on classroom practice.

At the implementation level, Universitas Negeri Semarang (UNNES) emphasizes PPG as an effort to develop competent educators with a strong work ethic through intensive learning to hone knowledge, skills, and attitudes. However, there is still room to test a more precise relationship model within the UNNES PPG Economics Education environment: the extent to which competence, motivation, and welfare influence performance, and whether this influence flows through teacher certification variables. Many studies stop at direct relationships (e.g., competence → performance) or treat certification as merely a label, leaving the “how” mechanism (i.e., how it works) untested.

Teacher certification is an important indicator in assessing teacher quality. However, certification cannot serve as the sole benchmark. Other factors, such as competence and motivation, also significantly influence teacher performance. In the context of PPG Economic Education at UNNES, this study will investigate the relationships among teacher competence, motivation, and welfare, and teacher performance. The teacher certification variable will be included as an intervening variable because it can mediate the influence of these factors on teacher performance.

METHODS

This study uses a quantitative, survey-based approach to analyze the influence of teacher competence, motivation, and welfare on teacher performance, with certification as an intervening variable. The study population was teachers of the PPG in Economics Education at UNNES. The sampling technique used was purposive sampling, with the criteria being teachers who had passed the certification program. The study used 45 teachers, who were considered representative for analyzing the relationship between variables.

The data collection instrument in this study was a closed-ended questionnaire using a 5-point Likert scale, ranging from “strongly disagree” to “strongly agree”. This questionnaire consists of several parts, namely: (1) teacher competence,

including pedagogical, professional, social, and personality aspects; (2) teacher motivation, including intrinsic and extrinsic motivation; (3) teacher welfare, as measured by financial, psychological, and social welfare aspects; (4) teacher certification, as seen from the certification status and benefits felt; and (5) teacher performance, as measured by work results, learning effectiveness, and achievement of educational goals.

Reliability testing was conducted using Cronbach’s Alpha, with values >0.70 considered reliable. The collected data were analyzed using path analysis to test the direct and indirect relationships among variables, as well as the mediating effect of teacher certification on the relationship between welfare and performance. Finally, the results of the data analysis are presented in tables and graphs that illustrate the relationships among variables. Interpretation of the results is based on the regression coefficient, the significance value, and the magnitude of the mediation effect. This study also discusses limitations, such as the limited number of PPG teachers at UNNES, and offers recommendations for future research.

RESULTS AND DISCUSSION

Respondent Data

Based on gender, the respondent data is as follows in Table 1.

Table 1. Respondent Gender Data

Gender	f	Percentage (%)
Male	15	33.33 %
Female	30	66.67 %
Total	45	100 %

Source: Processed Primary Data (2024)

Table 1 shows that 15 respondents were male (33.33%) and 30 were female (66.67%). Thus, the study included 45 teachers in the field of economic education who had completed the PPG at UNNES.

Validity Test

The validity test conducted in this study used the Loading Factor, Average Variance Extracted (AVE), and Cross-Loading. First, the validity criteria with the Loading Factor value can be seen as follows: (1) If the Loading Factor value > 0.7, then the questionnaire item is valid. (2) If the Loading Factor value <0.7, then the questionnaire item is invalid. After calculating using SmartPLS, the following results were obtained:

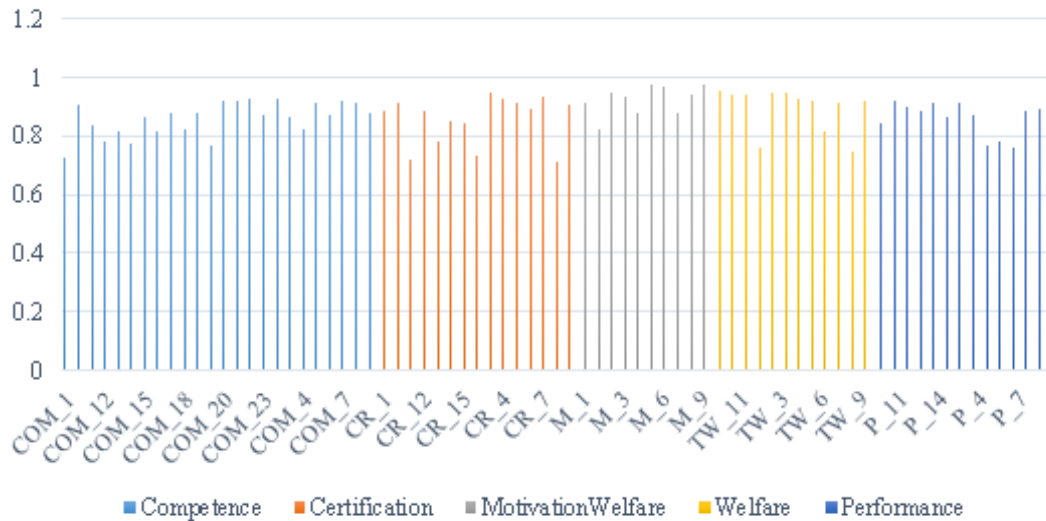


Figure 1. Factor Loadings for All Items

From the loading factor results above, all questionnaire items have loadings greater than 0.7, indicating that all indicators are valid. The next stage is the validity test using the Average Variance Extracted (AVE) value. The validity decision criteria with the Average Variance Extracted (AVE) value can be seen as follows: (1) If the AVE value > 0.5 , then the questionnaire item is valid. (2) If the AVE value < 0.5 , then the questionnaire item is invalid. After performing the calculations, the following results were obtained.

Table 2. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
Certification	0.739
Competence	0.740
Motivation	0.856
Performance	0.748
Welfare	0.805

Source: Processed Primary Data (2024)

Based on the results in Table 2, all variables have AVEs greater than 0.5, indicating that Competence, Certification, and Performance are valid. Given that the item validity test has been proven to be fully valid, then everything in the variable validity test, as shown in the table above, has also been proven valid because all variables have an AVE value above 0.5. Thus, all variables can be used to test hypotheses using inferential statistics.

Hypothesis testing uses inferential statistics, including Discriminant Validity Cross

Loading. The Cross-Loading value represents the correlation between each construct and its indicators, as well as indicators from other non-construct blocks. A measurement model has good discriminant validity if the correlations between a construct and its indicators are stronger than those between the construct and other constructs. The following results were obtained after the data was processed as follows in Figure 2.

The cross-loading results in Table 2 above show that the correlation coefficient between the construct and its indicators is greater than that between the construct and other constructs. Thus, all constructs or latent variables already have high discriminant validity, as evidenced by the superiority of the construct indicator block compared to other indicator blocks.

Reliability Test

In this study, reliability testing was conducted using Composite Reliability and Cronbach's Alpha. The decision criteria for reliability testing with composite reliability can be seen as follows: (1) If the Composite Reliability value is > 0.7 , then the questionnaire item is reliable. (2) If the Composite Reliability value is < 0.7 , then the questionnaire item is not reliable. The decision criteria for reliability testing with Cronbach's Alpha can be seen as follows: (1) If the Cronbach's Alpha value is > 0.7 , then the questionnaire item is reliable. (2) If the Cronbach's Alpha value is < 0.7 , then the questionnaire item is not reliable. The following are the results of the composite reliability and Cronbach's alpha calculations.

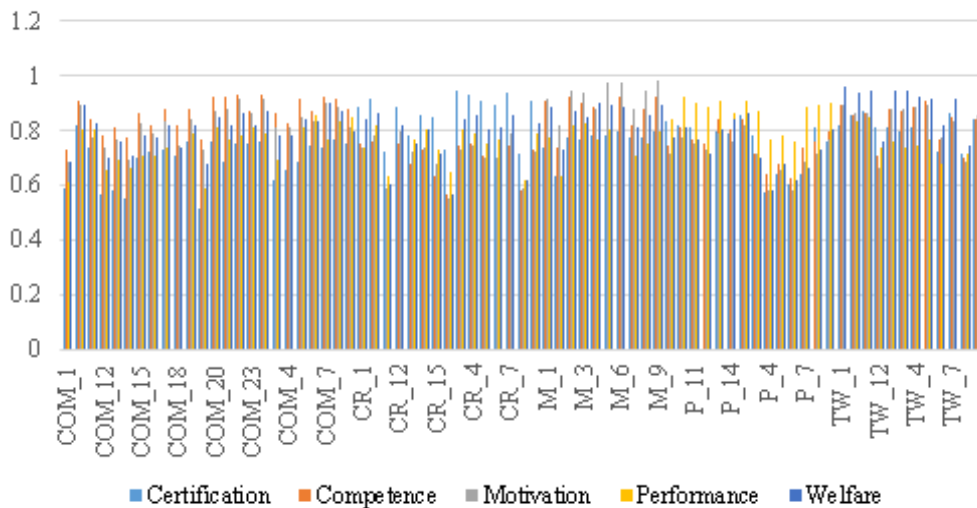


Figure 2. Discriminant Validity Cross-Loading

Table 3. Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability
Certification	0.974	0.977
Competence	0.984	0.986
Motivation	0.981	0.983
Performance	0.974	0.976
Welfare	0.977	0.980

Source: Processed Primary Data (2024)

The Composite Reliability results shown in the table above show that all Composite Reliability values for each construct have values greater than 0.7, which means all constructs are reliable. The Cronbach's Alpha values for all constructs are more significant than 0.7, which means all constructs are reliable.

Path Coefficient

Bootstrapping analysis in Smart-PLS

yields coefficient values for each relationship, with the highest observed for the Teacher Competence and Teacher Performance relationship at 0.843. The following are the path coefficients from Table 4.

The coefficient of determination measures the magnitude of the independent variable's influence on the dependent variable. The value of the coefficient of determination can be shown in the following table.

Table 5. Coefficient of Determination (R-Square)

	R Square	R Square Adjusted
Certification	0.827	0.815
Performance	0.850	0.835

Source: Processed Primary Data (2024)

Based on Table 5, the R-Square Certification value (Path I Model) is 0.827. This means that the influence of Teacher Competence, Motivation, and Welfare as independent variables through Teacher Certification as an intervening variable

Table 4. Mean, STDEV, T-Statistics, and P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Certification -> Performance	0.653	0.590	0.215	3.032	0.003
Competence -> Certification	-0.304	-0.252	0.283	1.072	0.284
Competence -> Performance	0.843	0.880	0.237	3.560	0.000
Motivation -> Certification	0.082	0.063	0.325	0.253	0.800
Motivation -> Performance	-0.211	-0.159	0.284	0.741	0.459
Welfare -> Certification	1.112	1.076	0.226	4.918	0.000
Welfare -> Performance	-0.323	-0.353	0.259	1.246	0.213

Source: Processed Primary Data (2024)

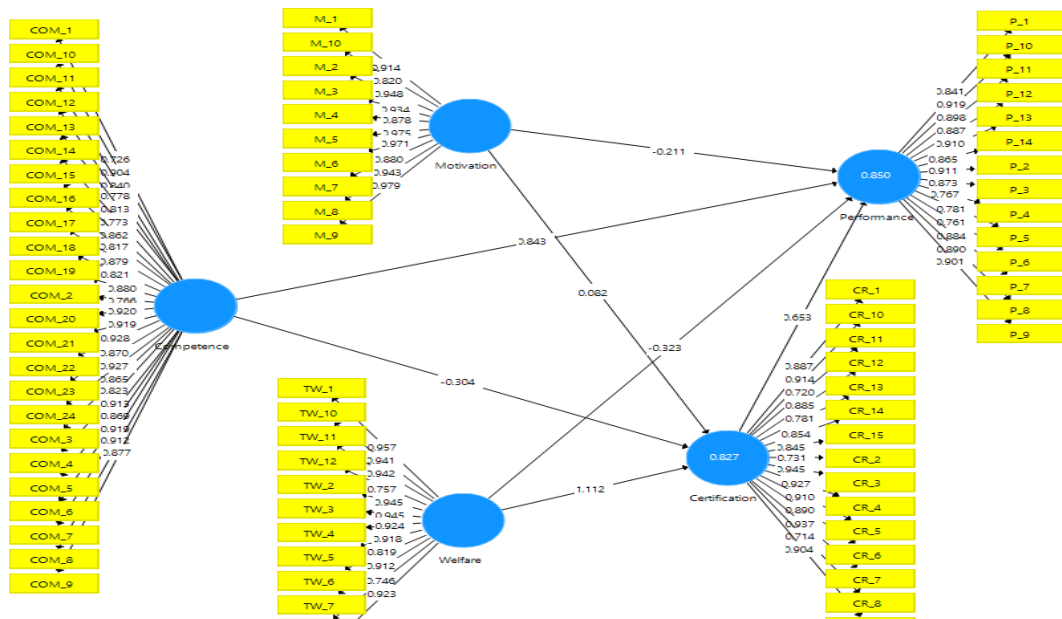


Figure 3. Path Coefficient

Table 6. F-Square

	Certification	Competence	Motivation	Performance	Welfare
Certification				0.490	
Competence	0.039			0.333	
Motivation	0.003			0.023	
Performance					
Welfare	0.818			0.044	

Source: Processed Primary Data (2024)

in explaining the Teacher Performance variable is 82.7% (large). The R-Square Performance value (Path II Model) is 0.850. This means that the influence of Teacher Competence, Motivation, and Welfare as independent variables in explaining the Teacher Performance variable is 85% (large). On the other hand, other factors outside the study show other values. Effect size (F-Square) is used to assess the relative impact of an influencing variable (endogenous) on the influenced variable. The F-Square value can be shown in the following Table 6.

Table 6, it can be concluded as follows: (1) Competence -> Certification = 0.039 (moderate). (2) Motivation -> Certification = 0.003 (small/bad). (3) Welfare -> Certification = 0.818 (Large). (4) Competence -> Performance = 0.333 (Large). (5) Motivation -> Performance = 0.023 (Moderate). (6) Welfare -> Performance = 0.044 (Moderate). (7) Certification -> Performance = 0.490 (Large)

The Influence of Competence on Teacher Performance

Teacher competence is one of the key factors contributing to performance (Karlen et al., 2023; Lavin & Goodman, 2023; Martin-Beltrán et al., 2023). Competent teachers have a deep understanding of the subject matter, good pedagogical skills, and the ability to manage the classroom effectively. This study shows that teacher competence positively influences their performance. Teachers with higher levels of competence tend to have better performance in teaching and educating students (Barış Pekmezci & Dağdeviren Ertas, 2024; Cheung et al., 2023; Delafontaine et al., 2024).

However, this influence is strengthened by teacher certification. Certification is not only a formal recognition of competence but

also provides additional encouragement for teachers to continue improving their skills. This is due to the standards that must be met to obtain certification, which motivates teachers to learn and develop professionally (El Kazdoun et al., 2022; Ko, 2012; Wanzel et al., 2002).

The Influence of Motivation on Teacher Performance

Motivation, both intrinsic and extrinsic, plays an important role in determining teacher performance. Teachers who are intrinsically motivated (e.g., satisfaction with teaching or a sense of responsibility towards students) tend to be more dedicated and consistent in providing high-quality learning (Rodriguez-Calzada et al., 2024; Xie et al., 2024). Extrinsic motivation, such as awards, incentives, and recognition from institutions, can also improve teacher performance. This study found that motivation has a significant direct effect on teacher performance. Teacher certification can strengthen this motivation, especially extrinsic motivation. Certification is often associated with additional benefits such as salary increases or career incentives, which ultimately increase teacher motivation to perform better.

The Impact of Well-Being on Teacher Performance

Teacher well-being, whether in financial, physical, or psychological forms, significantly affects teacher performance (Holte, 2024; Romar et al., 2020). Teachers who feel well-being tend to have a better quality of life, which allows them to be more focused and productive in their work (Liu et al., 2020). This study shows that teacher well-being has a positive impact on their performance, with higher well-being creating a more conducive work environment. In this context, teacher certification also plays an important role. By obtaining certification, teachers often get increased well-being, such as certification allowances or promotions. This increase in well-being ultimately contributes to increased teacher performance because they feel more appreciated and supported by the institution.

Teacher Certification as an Intervening Variable

Teacher certification in this study functions as an intervening variable that strengthens the influence of competence, motivation, and well-being on performance (Núñez-Canal et al., 2022; Webster-Stratton et al., 2012). Certification pro-

vides formal recognition of teacher competence and increases their motivation through financial or professional incentives (Romel et al., 2021). Certification also serves as a form of welfare support, improving teachers' working conditions and encouraging performance. Certification also encourages teachers to adhere to higher professional standards, which ultimately improves the quality of teaching and classroom management. This supports the finding that certification is not only a tool for measuring competence but also a mechanism that motivates teachers to continue developing and contributing optimally in the workplace.

The impact of teacher competence, motivation, and welfare on teacher performance on the quality of economic education held at UNNES

The impact of teacher competence on their performance is very significant in determining the quality of economic education at UNNES. Competent teachers have a deep mastery of teaching materials and can use effective teaching methods. In the context of economic education, competent teachers can link economic concepts to relevant real conditions, such as market developments, economic policies, and global financial dynamics. This provides students with a more comprehensive understanding and encourages them to think critically, thus producing graduates who are ready to face economic challenges in the world of work.

Teacher motivation also plays an important role in improving the quality of economic education at UNNES. Teachers who have intrinsic motivation, such as satisfaction in teaching and a sense of moral responsibility for student development, tend to provide higher-quality teaching (Ji, 2023). In addition, extrinsic motivation, such as awards and recognition, also encourages teachers to innovate in the learning process (Carroll et al., 2024; Yang et al., 2023). Strong motivation enables teachers to be more creative in compiling materials, adopting new learning methods, and actively engaging in academic development that enriches students' learning experiences. Teachers' well-being, both financially, physically, and psychologically, also greatly influences their teaching performance and its impact on the quality of economic education. Teachers who feel well-supported by the institution will be more focused and enthusiastic in carrying out their duties. Good well-being encourages teachers to participate more in professional development activities, attend training, and engage in academic research relevant to economics.

CONCLUSION

This study found that teacher competence plays a significant role in improving teacher performance. Teachers with strong competence, including pedagogical, professional, social, and personality skills, tend to perform better in managing classes and implementing learning. These competencies directly contribute to the quality of the learning process and to the achievement of student learning outcomes. Thus, improving teacher competence is a crucial factor in supporting improved performance.

In addition, teacher motivation positively influences performance. Highly motivated teachers, whether driven by intrinsic motivation (such as the desire to continue learning and innovating) or extrinsic motivation (such as financial rewards or social recognition), tend to perform more optimally. Teacher motivation not only affects dedication to work but also encourages them to adapt to changes in the curriculum or new educational technology.

Meanwhile, teacher welfare also plays an important role in improving performance, but through an intervening variable, namely, teacher certification. Teachers who have been certified tend to feel more professionally appreciated, which, in turn, improves their psychological and financial well-being. Better well-being increases enthusiasm and productivity in carrying out their duties. Thus, teacher certification mediates the relationship between well-being and performance, strengthening the influence of well-being on improving performance.

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