Work Motivation to Improve the Professionalism of Vocational Teachers with Teacherpreneur Character

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Abstract Work motivation is an important component in improving the professionalism of vocational teachers who possess teacherpreneur characteristics. Teachers are required to have more than technical expertise to meet the demands of the workforce in the Industrial Era 4.0. They must also demonstrate creativity, innovation, and entrepreneurial skills. The purpose of this study was to evaluate the influence of teachers' work motivation and professionalism on the development of teacherpreneur characteristics. The research sample consisted of 264 productive teachers in the Automotive Vocational Technology field in Semarang City. The study employed a quantitative approach with an ex post facto research design. Path analysis and descriptive statistics were used to validate and analyze the questionnaire instruments. The results showed that work motivation had a significant direct effect on teacher professionalism (t = 4.69). The main conclusion is that increasing teachers' work motivation positively contributes to the professional development of vocational teachers. This research highlights the importance of integrating entrepreneurial values into teacher development efforts within vocational education.

Keywords: Teacherpreneur; Teacher character; Teacher professionalism; Vocational education; Work motivation

INTRODUCTION

Vocational education teachers can improve the quality of learning through strong work motivation within the vocational education environment. Teachers' work motivation is very important in creating graduates with character (Núñez-regueiro et al., 2023). According to Proudfoot (2022), internalized regulations have an impact on the development of teacher professionalism and significantly affect the quality of education. In addition, teachers' constitutive motivation, which is rooted in a deep commitment to students and their teaching profession, also influences their professional learning (Proudfoot & Boyd, 2025). Opinion Kumari & Kumar (2023), the motivation to become a teacher is very important because it can affect recruitment and perception of Professionalism in the teaching profession. Teachers who have a positive outlook on their profession tend to demonstrate higher motivation. To ensure the sustainability of quality teaching, teachers must remain motivated (Pekrun, 2021). The relationship between teacher professionalism and their development in vocational education is not always explicitly discussed. However, according to Bergmark (2023), teacher professionalism, which is based on science-based knowledge and ethical principles, requires a balance between self-assessment and research results.

The professional learning community plays an important role in enhancing teachers' professional development through cooperation and continuous improvement (Fred et al., 2020). In addition, accountability measures in teacher education are also needed to ensure optimal teaching quality (Allen et al., 2018). In vocational education and training, cooperation between schools and industry can improve the professionalism of vocational teachers (Hiim, 2023).

However, vocational education today faces many major problems that hinder efficiency and inclusion. In addition to the misalignment between vocational skills and learning outcomes, inconsistent teacher assessment practices can hinder the progress of student competencies (Siti et al., 2023). In addition, according to Wang & Wang (2024), The professionalism of vocational teachers is hampered by the low social status of their profession. Continuous skills development is becoming increasingly important in the era of digital manufacturing to meet the demands of an ever-evolving workforce (Leesakul et al., 2022). The Professionalism of vocational teachers is essential to align educational practices with the demands of the job market. This ensures that the teaching materials and approaches effectively develop the skills required by the regional socioeconomic context, enhancing students' employability (Giordano et al., 2021). Professional trust is also very important for teacher recruitment and retention (Dulfer et al., 2023).

A teacher's character significantly influences teaching quality and the overall classroom environment. As an important part of the learning environment, teachers influence pedagogical methods and student learning outcomes (Rönnlund et al., 2021). Teachers can influence student engagement, achievement, and behavior if they have traits such as openness, awareness, extraversion, friendliness, and emotional stability

(Roorda et al., 2021). The socio-political context also affects the character of the teacher; this context can affect whether the teacher encourages or discourages students from behaving well (Monypenny, 2021). Teachers' personality characteristics influence their perceptions of student inclusion and diversity (Urso et al., 2023). Therefore, high work motivation possessed by teachers not only increases teaching effectiveness but also contributes to the development of the character of graduates (Khalid et al., 2023). High work motivation is also important for teachers to effectively contribute to the development of skilled graduates in vocational education (Kristmansson & Fjellström, 2022). Teacher engagement and motivation directly affect students' academic satisfaction and overall motivation. Ultimately, this results in graduates who are competitive in the digital age (Veen & Peetsma, 2020).

In vocational education, the relationship between work motivation and teacher professionalism is still unclear. This relationship is complex and requires further research to understand the dynamics between work motivation and teacher professionalism in vocational education (Proudfoot, 2022). In addition, challenges such as academic stress arise during teacher education, which shows the complicated relationship between work motivation and teacher professionalism (Núñez-regueiro et al., 2023). This challenge arises when aspiring teachers are motivated by a positive perspective about their profession. In addition, the professional community plays an important role in influencing teachers' work engagement by increasing their self-efficacy and emphasizing the importance of shared norms and collective responsibility to increase their involvement (Cai et al., 2022).

Increasing educators' satisfaction with their psychological needs can improve their Professionalism, which has a positive impact on educator motivation and student learning outcomes (Martinek, 2019). According to Richardson et al. (2020), Professionalism can help explain the relationship between teachers' mindsets, motivation, and teaching practices. As a factor that encourages teachers to become professionals in the field of vocational education, there has been no thorough research on the role of teacherpreneurs. According to (Zhao et al., 2022), teachers who incorporate entrepreneurial behavior into their teaching practices can contribute significantly to student growth. These teachers' entrepreneurial behaviors include adjusting their teaching practices as well as the influence of demographic characteristics on entrepreneurial actions in an educational context (Neto et al., 2019). Value creation in research projects also includes incorporating entrepreneurial behaviors into teaching practice (Davis, 2023). However, the role of curriculum, business, and technology in fostering students' entrepreneurial intentions is still a challenge for teachers to convey lessons well (Nepal et al., 2021).

In terms of vocational education research, especially related to the work motivation and Professionalism of teachers with teacherpreneur character, there are still some important gaps that need to be studied further. Although teachers' work motivation is considered an important component in improving the quality of teaching and character

formation of students, the relationship between work motivation and teachers' Professionalism in vocational education is still not fully understood. In addition, the idea of teacherpreneur has developed into a creative strategy to improve the quality of teachers. However, there has been no comprehensive research linking learning innovations and student character development to teachers' entrepreneurial behavior (Zhao et al., 2022).

In addition, the research literature shows a lack of attention to the influence of teachers' work motivation on the formation of students' character. This indicates a gap in the literature (Henry & Thorsen, 2021). This has become increasingly important due to the demands of today's world of work, which requires not only technical skills but also students' ability to think critically, independently, and entrepreneurially. In addition, the literature is still very limited on teacher professional development strategies that are useful for improving teacher entrepreneurship and Professionalism in vocational education (Zhang et al., 2022).

Several researchers have provided a theoretical basis for relevant ideas. According to Kumari & Kumar (2023), Teachers' work motivation is very important to produce graduates with character. Meanwhile, Jansen in de Wal et al. (2020) explained that teachers' constitutive motivation has a direct impact on the quality of learning. This motivation comes from a deep professional commitment. According to Palacios Liberato (2021), The Professionalism of teachers should be based on ethical principles and science-based knowledge, so that they can balance their judgment and the results of their research. In the term "teacherpreneur", entrepreneurial values such as innovation, creativity, and courage take risks during the learning process (Davis, 2023). Konsep ini sejalan dengan pendekatan pembelajaran berbasis proyek dan teaching factory yang umum diterapkan di SMK.

A number of studies have been conducted to determine teacher professionalism, focusing on factors such as work motivation, work experience, and the teacher's work environment (Liu et al., 2023). However, most of these studies are general and not specific to vocational education or the business aspects of teachers. As a result, this study has not focused on internal and external variables that affect teacher professionalism in the context of vocational and entrepreneurship.

Two main aspects of this research offer novelty. First, it focuses on how the concept of teacherpreneur contributes to the formation of teacher professionalism in vocational education. Second, it uses a holistic approach to look at how internal factors (motivation, work experience, attitudes) and external factors (family, school, community) affect each other simultaneously.

The purpose of this study is to evaluate various internal factors (education and training, work experience, work motivation, attitude), external factors (family, school environment, and community social environment) on the Professionalism of teachers

with teacherpreneur character, and assess the role of teachers with teacherpreneur character as mediators in the educational process.

METHOD

Research Design

This study used a quantitative approach with an ex post facto research design. This design was selected because the researcher observed and measured conditions in the field without manipulating any variables. Path analysis was employed to examine both the direct and indirect relationships among the variables under study, as these relationships are correlational in nature (see Figure 1).
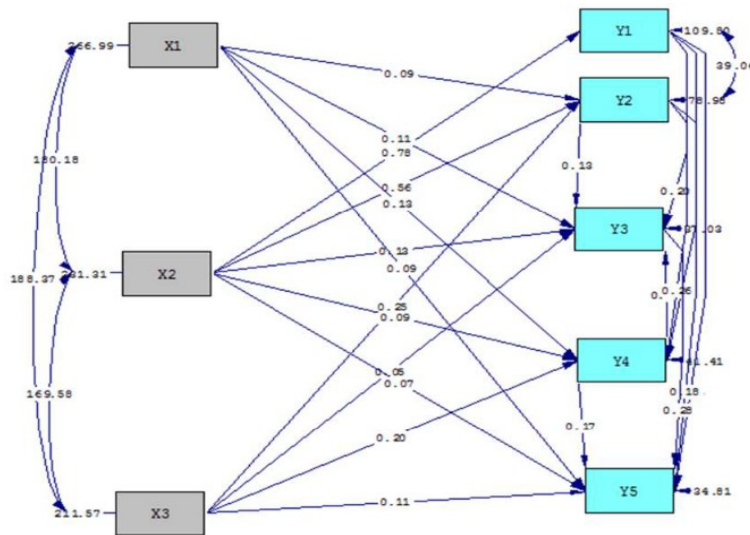
Figure 1. Diagram path.

Population and Sample

The population of this study consisted of all productive teachers in the Automotive Vocational Technology specialization who teach at Vocational High Schools (SMK) in Semarang City. A total of 309 teachers from 34 vocational schools located in various sub-districts of Semarang City were included.

Instrument

The primary data were collected using a structured questionnaire. The instrument measured several variables, including family environment, school environment, community social environment, education and training, work experience, work motivation, attitudes, and teacher professionalism in relation to teacherpreneur characteristics. The questionnaire items were developed based on the operational definitions of each variable and supported by previous research to ensure content and construct validity.

Data Analysis

The data analysis consisted of descriptive and inferential statistical techniques. Descriptive statistics were used to describe the characteristics of each research variable, including measures of central tendency (mean, median, and mode). Prior to inferential analysis, statistical assumption tests were conducted, which included tests for distribution (skewness and kurtosis) and normality through normal probability plots and skewness coefficients.

The following assumption tests were also performed:

a. Linearity test using the deviation from linearity approach

b. Homoscedasticity test using scatterplots and the Park test

c. Multicollinearity test based on correlations between independent variables, Variance Inflation Factor (VIF), and tolerance values

After the data met the required assumptions, correlation analysis, multiple linear regression, and path analysis were conducted to test the hypotheses and identify the direct and indirect effects of the independent variables on professionalism and teacherpreneur characteristics. Data analysis was performed using SPSS for Windows version 21.

FINDINGS AND DISCUSSION

According to Table 1 of the Descriptive Statistical Analysis of Research Variables, the family environment variable received an average score of 13.95, the school environment variable 13.84, and the community social environment variable 25.21, each showing a difference in respondents' perception of each environmental factor.

Table 1. Descriptive statistical analysis of research variables.

	Professionalism	attitude	Work motivation	Work experience	Education and training	Community environment	School environment	Family environment
Mean	42.94	36.17	34.03	15.81	22.15	25.21	13.84	13.95
Median	40.00	33.44	32.34	14.41	20.97	24.37	12.57	13.09
Mode	28.61	24.65	23.60	10.00	17.75	15.50	9.00	8.00
Std deviation	11.69	9.24	8.46	4.97	6.09	6.42	4.05	4.11
minimum	25.00	23.00	20.19	10.00	12.00	14.00	9.00	8.00
maximum	74.87	65.08	59.25	31.21	38.45	44.17	26.69	25.20

The frequency distribution results in Table 2 shows that most vocational teachers, 143 respondents (54.2%), are in the "low" and "very low" categories in terms of education and training. This shows that Automotive Vocational Technology teachers in Semarang City need better professional development.

Table 2. Variable distribution of education and training.

Category	Score Range			Frequency	Percentage
Very High	34	-	40	10	4%
High	28	-	33.9	39	15%
Enough	22	-	27.9	72	27%
Low	16	-	21.9	98	37%
Very Low	10	-	15.9	45	17%
Sum				264	100%

Table 3 shows that the majority of participants (64.4%) had work motivation in the "very low" category. This shows that it is a great challenge to build a positive attitude that supports the Professionalism of teachers who work as entrepreneurs.

Table 3. Variable distribution motivation for work.

Category	Score Range			Frequency	Percentage
Very high	78.2	-	92	0	0.0%
High	64.4	-	78.1	1	0.4%
Enough	50.6	-	64.3	24	9.1%
Low	36.8	-	50.5	69	26.1%
Very low	23	-	36.7	170	64.4%
Sum				264	100%

The results of the heteroscedasticity test of several structural equations showed that there was no specific pattern on the residual graph, which suggests that the homoskedasticity assumption was fulfilled and the data were not affected by heteroscedasticity.

The results of the path analysis (Figure 1) show that, with a t-value of 4.69, teachers' work motivation has a significant direct influence on the professionalism of teachers with teacherpreneur characteristics. This shows that the higher the teacher's motivation for work, the more professionally they apply entrepreneurial values in vocational education. These results are in line with research by Cooper et al. (2023), who found that teachers' constitutive motivation stemming from deep professional commitment contributes directly to the quality of learning and the development of teacher professionalism. In addition, these findings also support the statement of Bardach et al. (2022) that work motivation is very important in shaping the character of superior and innovative graduates because of the role of teachers as agents of change. Therefore, efforts to increase teachers' work motivation through awards, career development, and managerial support are essential to strengthen the Professionalism of vocational teachers.

The results of the study showed that, based on the correlation matrix analysis, the family environment, the school work environment, and the social environment of the community each had a positive relationship among the three environmental variables.

The correlation value for the family environment was 0.74, for the school environment was 0.82, and for the community environment was 0.77, which indicates a unidirectional and significant relationship between the three social environments of the community. This result is in line with the opinion of Antera (2021), which states that the internal and external environment influences a person's attitude and behavior in the context of Professionalism. In addition, the results of the path analysis showed that, with regression coefficients of 0.094, 0.070, and 0.11, respectively, the three environmental variables simultaneously contributed 64% to the professionalism of entrepreneurial teachers. Although the influence of the school environment was partially insignificant (t-value = 1.39), overall, the combination of the three environmental elements affected the Professionalism of teachers in vocational education. In addition, these findings support research by Yuan & Li (2020), which states that a person's social environment, whether from family, colleagues, or society, has a great influence on a person's attitude and professional ability. For vocational teachers, getting support from family can increase enthusiasm and motivation to work, while a good school environment can encourage cooperation and innovation. On the other hand, the role of teachers as teacherpreneur agents is also strengthened by the active participation of the community as industry partners. As a result, policymakers must create an educational ecosystem that supports interaction between families, schools, and the community to improve the quality of vocational education.

In addition, the results of this study show that the family environment, school workplace environment, and community social environment have a significant positive correlation with the Professionalism of teachers and teacher-preneur characteristics. From Table 1, it is known that the average score for the family environment is 13.95. the school environment is 13.84, and the community environment is 25.21, each showing a difference in the respondents' perception of each environmental factor. This result is in line with the opinion of Meyer et al. (2022), which states that a person's environment greatly influences their attitude and behavior. For vocational teachers, getting support from family can increase enthusiasm and motivation to work, while a good school environment can encourage cooperation and innovation. On the other hand, the role of teachers as agents of teacher entrepreneurs is also strengthened by the active participation of the community as an industry partner. Gelbgiser (2021) supports this by saying that a person's social environment, such as family, peers, and society, greatly influences a person's attitude and professional abilities.

In addition, as shown in Figure 1 of this study, there is an indirect correlation between environmental components and teacher entrepreneurial behavior. Variables such as teachers' attitudes and motivation to work have this relationship indirectly. Therefore, policymakers need to create a mutually supportive educational ecosystem between families, schools, and communities to produce innovative, adaptive, and entrepreneurial vocational teachers. The concept of teacherpreneur is very helpful in improving the teaching practice of vocational teachers because it combines entrepreneurial traits such as innovation, creativity, leadership, and the ability to take

risks responsibly. With a t value of 4.69, the results of this research path analysis show that teacherpreneurship has a direct influence on learning innovation and the formation of student character in vocational schools. This shows that the more teachers apply the teacherpreneur principle, the greater the positive impact on the development of technical competencies and non-technical traits of students, such as a sense of social responsibility, creativity, and independence.

Factors such as developing curriculum, making policies, and participating in community activities had a positive correlation with teacher professionalism and learning quality. In other words, teachers who actively participate in the creation of learning materials and participate as business actors in the school environment tend to be more creative in their pedagogical methods and more effective in building the character of their students. These results are in line with Igwe et al. (2022), which states that teachers who incorporate entrepreneurial behavior in their teaching practices can significantly contribute to students' academic and moral growth. In addition, as shown in Figure 1, teacherpreneurs influence the formation of students' character directly and indirectly through the teacher's work motivation path, attitude, and work experience. Therefore, the concept of teacherpreneur is an important strategy to support the transformation of vocational schools into vocational education institutions that produce graduates who have strong technical skills and entrepreneurial mentality and are ready to work in Industry 4.0.

The results of the analysis of the research path show that internal factors such as education and training, work experience, attitude, and work motivation have a significant and simultaneous influence on the Professionalism of teachers with teacherpreneur characteristics. As a result of interpretation, each variable showed significance (education and training, 3.52%; work experience, 3.67%; work motivation, 4.69%; and attitude, 2.80%). According to Fahrman et al. (2020), Teacher professionalism does not depend only on technical knowledge; It also depends on attitudes, moral principles, and adaptability that are supported by experience and the desire to work. Moreover, Zhang et al. (2022) state that work experience provides hands-on practical opportunities that strengthen teachers' professional identities. Education and training are an important foundation for improving teachers' pedagogical and vocational abilities.

CONCLUSION

The purpose of this study was to examine how teachers' work motivation influences the professionalism of vocational teachers who demonstrate entrepreneurial characteristics. The findings indicate that work motivation has a significant direct effect on teacher professionalism (t = 4.69). In addition, the family, school, and community environments also contributed positively, with correlation coefficients of 0.74, 0.82, and 0.77, respectively, indicating that external support systems strengthen

teachers' professional behavior. Internal factors, including education and training, work experience, attitude, and work motivation, contributed 34% to teacher professionalism, confirming the importance of continuous capacity development for vocational teachers.

Overall, this study contributes to the growing body of research on teacherpreneurship in vocational education and provides a foundation for developing innovative and adaptive teacher development policies in the context of the Industrial Era 4.0. However, the cross-sectional nature of this study limits the ability to observe changes in motivation over time, and the research sample was limited to vocational teachers in Semarang City.

Considering these findings, local governments and educational institutions are encouraged to enhance ongoing professional development programs, increase access to industry-based work experience, and establish a supportive school environment that fosters entrepreneurial behavior. Future research should employ longitudinal or broader sampling approaches to better understand the causal mechanisms and development of teacher motivation and professionalism over time.

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