



Integration of Work Experience and Professional Training in Shaping the Character of Teacherpreneurs

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ABSTRACT: *By increasing access to high-quality education and fair employment opportunities, vocational education contributes significantly to the achievement of Sustainable Development Goal 4 (SDG 4). Nevertheless, many vocational instructors lack the teacherpreneur qualities required to promote innovative Learning and match the curriculum to industry demands. This study examines the impact of combining professional training and work experience on the development of teacherpreneur traits among automotive vocational teachers in Semarang City. With 264 respondents, an ex post facto quantitative design was employed. A validated questionnaire was used to collect data, and path analysis and multiple linear regression were used for analysis. The findings indicate that work motivation has the most significant direct impact on the professionalism of entrepreneurial teachers ($\beta = 0.28$), followed by work experience ($\beta = 0.18$) and teacher attitudes ($\beta = 0.17$). Access to professional training is strongly influenced by the educational environment ($\beta = 0.78$). Although the combination of formal training with practical experience has a beneficial effect, the impact is still moderate. To guide the sustainable development of vocational teachers in the 21st century, this study proposes a novel theoretical framework that integrates professional training, work experience, and entrepreneurial approaches.*

Keywords: *educator professionalism, professional training, teacherpreneur, work experience, vocational teacher.*

ABSTRAK: *Dengan meningkatkan akses terhadap pendidikan berkualitas dan peluang kerja yang adil, pendidikan vokasi berkontribusi secara signifikan terhadap pencapaian Tujuan Pembangunan Berkelanjutan 4 (SDG 4). Namun demikian, banyak instruktur vokasi yang masih kurang memiliki kualitas teacherpreneur yang diperlukan untuk mendorong pembelajaran inovatif dan menyesuaikan kurikulum dengan kebutuhan industri. Penelitian ini mengkaji pengaruh penggabungan pelatihan profesional dan pengalaman kerja terhadap pengembangan karakteristik teacherpreneur pada guru vokasi otomotif di Kota Semarang. Dengan melibatkan 264 responden, digunakan desain kuantitatif ex post facto. Pengumpulan data dilakukan melalui kuesioner tervalidasi, dan analisis menggunakan path analysis serta regresi linier berganda. Temuan menunjukkan bahwa motivasi kerja memiliki pengaruh langsung paling signifikan terhadap profesionalisme guru berjiwa wirausaha ($\beta = 0.28$), diikuti oleh pengalaman kerja ($\beta = 0.18$) dan sikap guru ($\beta = 0.17$). Akses terhadap pelatihan profesional sangat dipengaruhi oleh lingkungan pendidikan ($\beta = 0.78$). Meskipun kombinasi antara pelatihan formal dan*

pengalaman praktis memberikan efek positif, pengaruhnya masih tergolong moderat. Untuk memandu pengembangan berkelanjutan guru vokasi di abad ke-21, penelitian ini mengusulkan sebuah kerangka teoretis baru yang mengintegrasikan pelatihan profesional, pengalaman kerja, dan pendekatan kewirausahaan.

Kata kunci: guru vokasi, pelatihan profesional, pengalaman kerja profesionalisme pendidik, teacherpreneur.

INTRODUCTION

Sustainable Development Goal 4 (SDG 4) requires vocational education to ensure inclusive and equitable quality education and promote lifelong learning opportunities (Lewis, 2025). In addition, vocational education supports SDG 8 by preparing a skilled workforce ready for economic growth and decent work (Webb et al., 2022; Barrera-Osorio et al., 2021). Furthermore, Igwe et al. (2022) Suggest That Vocational teachers must possess not only pedagogical and technical skills but also the entrepreneurial mindset of the teacherpreneur character described in this study.

A teacherpreneur is a vocational educator who applies entrepreneurial values such as creativity, innovation, leadership, responsible risk-taking, and solution orientation in the educational context to bridge the gap between schools and industry (Zhao et al., 2022). Higgins et al. (2019) Teacherpreneurship differs from conventional entrepreneurship, which focuses on business creation. Teacherpreneur emphasizes innovation in teaching, curriculum development, and collaboration with industry stakeholders.

There is little theory surrounding this concept, although interest in it is growing. Empirical indicators continue to emerge, and there is no universally accepted operational definition(Prince et al., 2021). Furthermore, many vocational teachers lack significant industry experience, leading to irrelevant curricula (Kristmansson & Fjellström, 2022). While professional training programs are available, they are often disconnected from real-world work experience, limiting teachers' professional development.

To address these differences, this study proposes a theoretical framework that combines work experience, professional training, and teacher-leader traits. This theoretical framework also considers mediating factors such as motivation, attitudes, and the school environment. This study uses data from 264 automotive vocational teachers in Semarang, Indonesia, to examine how these components function together to shape teacher professionalism.

Based on this background, this study aims to (1) analyze the direct influence of work experience, professional training, teacher attitudes, and work motivation on teacherpreneur professionalism; (2) evaluate the role of the school environment in facilitating access to professional training; and (3) propose an integrated theoretical framework that links industry exposure, structured professional development, and entrepreneurial orientation in vocational teacher education.

Work Experience and Vocational Teaching

Practical work experience allows vocational teachers to contextualize learning with real industry demands (Zhou et al., 2023). Ramírez-Montoya et al. (2021) add that teachers with industry backgrounds are better equipped to design authentic learning experiences and adapt curricula to technological and economic changes. However, according to Carlsson & Willermark (2023), many vocational teachers enter education directly from academic programs, resulting in a lack of direct industry experience.

Professional Training and Competency Development

Professional training enhances technical, pedagogical, and entrepreneurial competencies (Zhang et al., 2022; Antera, 2021). Structured, competency-based programs, particularly those incorporating project-based Learning and information technology, are effective in improving teacher performance (Uyen et al., 2023; Diao & Hu, 2022). However, according to Zhou et al. (2023), high-quality training is often limited by institutional support and geographic constraints.

The Concept of Teacherpreneur

In vocational education, educators who act as innovators, change agents, and collaborators are known as teacherpreneurs (Weicht & Jónsdóttir, 2021). In this study, six empirically identified dimensions were used to define the characteristics of teacherpreneurs (See Table 1).

Table 1. Dimensions and Indicators of Teacherpreneur Character

No.	Dimension	Indicators
1	Creativeness	Teachers often create new learning methods according to the needs of the industry.
2	Innovation	Teachers use new technology or learning tools in teaching automotive materials.
3	Leadership	Teachers can lead collaborative projects between schools and industry.
4	Responsible Risk-Taking Ability	Teachers are willing to change their learning strategies, even if they are not necessarily successful.
5	Solution Orientation	Teachers use real-life cases from the industry to solve learning problems.
6	Industry Collaboration	Teachers actively partner with industry for curriculum development and learning practices.

This operational definition provides measurable indicators for future policy and research.

Supporting Factors: Motivation, Attitude, and Environment

Teachers' attitudes and motivation significantly influence professional growth. Intrinsic motivation, such as the desire to influence students, drives innovation and engagement in professional development (Bardach et al., 2022; Hertz et al., 2022). Access to training and innovation is facilitated by a supportive school environment, which includes adequate facilities and management support (Li et al., 2023).

Theoretical Framework

This study combines three theoretical perspectives:

1. Work-Based Learning, as emphasized by Dogara et al. (2020), integrates real-world experiences into teaching practice.
2. Professional Learning and Development Bergmark (2023) views teacher growth as a dynamic and context-sensitive process.
3. Entrepreneurship Education International Commission on the Futures of Education & Indonesian National Commission for UNESCO (2022), which highlights initiative, creativity, and problem-solving as core competencies.

Together, these frameworks support a holistic model in which work experience and professional training converge under the influence of personal motivation, attitudes, and the organizational environment to foster teacherpreneurial characteristics.

RESEARCH METHOD

Design

In this study, the researcher employs a quantitative technique with an *ex post facto* design, observing and analyzing the phenomenon that has transpired, specifically the traits of teacherpreneur-like vocational teachers and the elements that influence their development. Because the researcher used pre-existing data, such as education, training, and work experience, to analyze causal correlations rather than directly altering the variables, this method was chosen

Participants and Sampling

This study includes all effective instructors in Semarang City's Vocational High Schools (SMK) that specialize in Automotive Vocational Technology and possess knowledge of Automotive Light Vehicle Engineering (TKRO) and Motorcycle Engineering and Business (TBSM). This group of educators works in both public and private vocational schools spread across fifteen Semarang City subdistricts. According to preliminary data, the total population consists of 309 teachers.

The sampling method is stratified proportional random sampling. Production units, business centres, teaching plants, industrial fosters, professional certification

bodies (LSPs), and their position as reference vocational schools were among the pertinent criteria that were used to randomly arrange the sample. Each teacher's name in the population was assigned a sequence number during the sample selection process. Random numbers were then generated using a Microsoft Excel application to select responses. A minimum sample size of 264 individuals was determined using an accuracy level of 5%. This approach maintains the validity of the research findings and guarantees a proportionate representation of all vocational school strata.

Instrumentation and Validity/Reliability

A questionnaire created using theoretical indications for every research variable makes up the research tool. These factors include the following: education and training (Y1), work experience (Y2), teacher motivation (Y3), attitude (Y4), teacherpreneur professionalism (Y5), home environment (X1), school environment (X2), and community social environment (X3). Using the Delphi approach, seven professionals in the fields of teacher professional development and vocational education verified the questionnaire's structure and content. A five-point Likert scale is used in the survey. Each tool's validity is assessed using product-moment correlation. The tool's high degree of internal consistency is indicated by reliability values that are above the 0.70 threshold, as determined by the Alpha Cronbach coefficient.

A questionnaire was distributed to successful vocational instructors in Semarang City who specialize in automotive vocational technology in order to gather data. Documentation, such as academic records, professional certifications, and pertinent references, is also employed as secondary data to broaden the analysis's context. A methodical approach is used in the preparation, validation, and dissemination of instruments to guarantee that the data gathered is legitimate, reliable, and representative of field conditions.

Data Analysis Procedures

Data analysis was conducted descriptively and inferentially to assess the hypotheses and determine the direct and indirect effects of the research variables. Prerequisite tests (normality, linearity, homoscedasticity, and multicollinearity) were conducted before multiple regression and path analysis using SPSS 21.

RESULT AND DISCUSSION

According to Table 2 of the Descriptive Statistical Analysis of Research Variables, the work experience variable received an average score of 15.81, the motivation variable 34.03, and the education and training variable 22.15. All of these scores show the difference in respondents' perception of each variable.

Table 2. 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	23,60a	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

Most respondents (64%) were in the very low category, as shown in Figure 1.

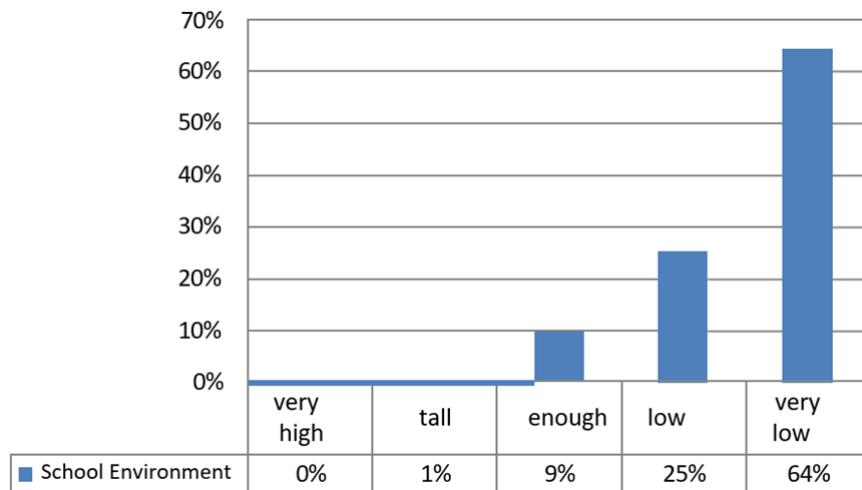


Figure 1. School Environment Variable Distribution Diagram

Table 3 shows the variable frequency distribution of teacher education and training; Most teachers (37%) scored in the low category, with scores ranging from 16 to 21.9.

Table 3. Variable Distribution of Education and Training

Category	Score Range	Frequency	Percentage
Very high	34-40,0	10	4%
Tall	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%

Figure 2 shows the distribution of teachers' work experience; As many as 63% of teachers are in the very low category. This suggests that there needs to be an increase in the length of a teacher's work experience.

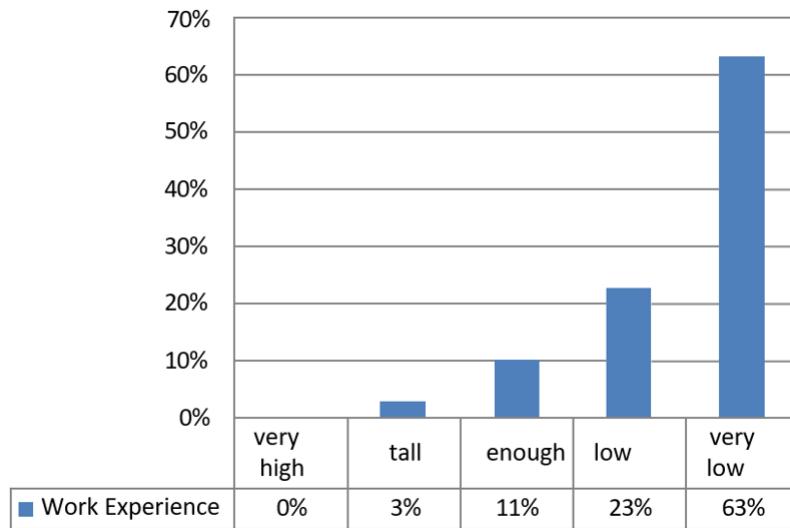


Figure 2. Distribution Diagram of Teacher Work Experience Data Categorisation

The results of the distribution of the attitudes of vocational teachers, shown in Table 4, show that 64.4% of teachers are in the very low category. This suggests that vocational teachers need more training to improve their professionalism.

Table 4. Distribution of Attitude Variables of Vocational School Teachers

Category	Score Range	Frequency	Percentage
Very high	78,2 – 92,0	0	0,0%
Tall	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	23,0 -36,70	170	64,4%
Sum		264	100%

The Direct Effects of Work Experience, Professional Training, Teacher Attitude, and Work Motivation on Teacherpreneur Professionalism

The results of the path diagram (Figure 3) show that work motivation has the most significant direct influence on teacherpreneur professionalism, with a β value of 0.28. Teacher attitudes and work experience both showed a significant positive correlation, with β values of 0.17, respectively. This suggests that, although structural elements such as training and industry exposure are important, internal psychological drivers, namely attitudes and motivation, are the most important factors shaping teacherpreneur character among vocational teachers.

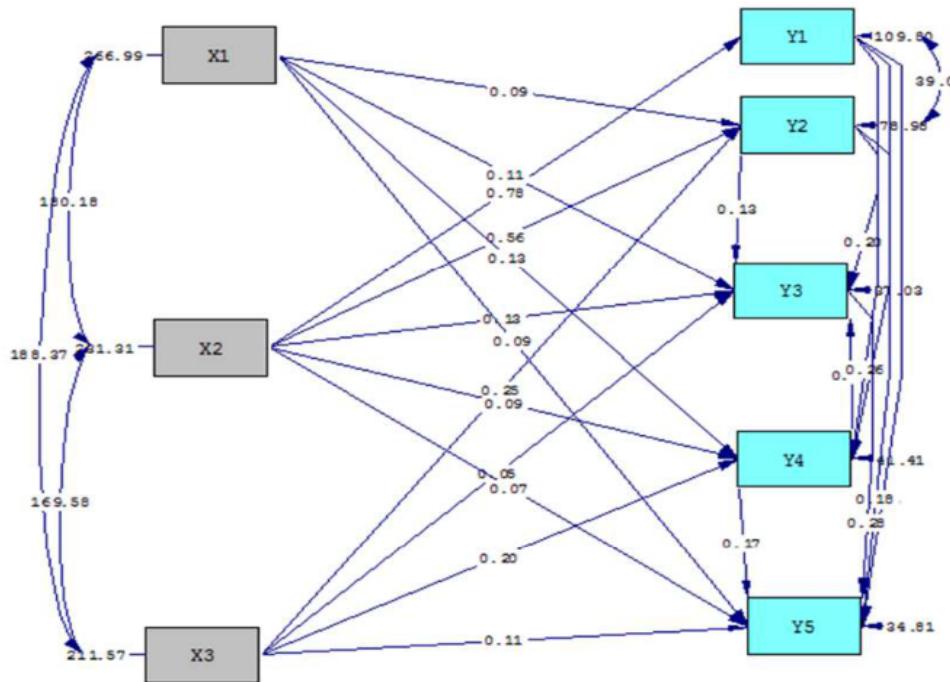


Figure 3. Path Diagram

Teachers possess work motivation, particularly intrinsic motivation, which demonstrates their commitment to professional advancement, student impact, and innovation. This is in line with X. Zhang et al. (2022), who stated that teachers with high levels of autonomy are more likely to engage in continuous Learning and adopt teacherpreneur behaviour. Motivated teachers in vocational education are more prepared to try new teaching approaches, collaborate with industry schools, and take responsible risks in curriculum design. These are essential components of teacherpreneur behaviour.

Similarly, teacher attitudes play a crucial role. A proactive, solution-oriented, and innovative mindset enables teachers to view challenges as opportunities for improvement. However, the data shows a worrying trend: 64.4% of teachers fall into the "very low" category for professional attitudes (Table 4). This suggests that despite the availability of training programs, many teachers lack the internal dispositions necessary to translate knowledge into entrepreneurial practice.

Work experience also contributes, although not significantly. Teachers with real-world work experience are better equipped to contextualize Learning, adapt the curriculum to industry needs, and serve as role models for students' employability (Mezhoudi et al., 2023). However, 63% of participants received a "very low" score, indicating a systemic gap between vocational education and the world of work. This limitation lowers the quality of project-based Learning and limits the teacher's role as a catalyst for change.

While important, the direct impact of professional training is weaker than expected. This is due to the unstructured nature of current programs, which often do not reflect real-world practice. As noted by Masoumi & Noroozi (2025), training will only be practical if it is competency-based, contextually relevant, and supported by ongoing mentoring.

The Role of School Environment in Facilitating Access to Professional Training

According to path analysis, the school environment has a strong and significant influence on access to professional training ($\beta = 0.78$). The school environment plays a key role in shaping entrepreneurial teacher characteristics. These results indicate that organizational support is crucial for teacher professional development.

A strong school environment with strong leadership, adequate facilities, a strong collaborative culture, and administrative support creates an ideal environment for teachers to engage with and benefit from training programs (X. Zhang et al., 2022). Conversely, even if teachers have a desire to develop professionally, schools with rigid management, limited resources, or a low culture of innovation often prevent them from doing so.

These results demonstrate that professional training does not happen in isolation; the institutional context influences its quality. For example, a teacher might develop an advanced training course on digital entrepreneurship. However, without school support to implement new tools or modify the curriculum, this knowledge remains underutilized.

The school environment also serves as a pathway to external opportunities. Schools with strong industry connections are more likely to provide training, internships, and joint projects for teachers. Conversely, educational institutions located in remote or underfunded areas face systemic barriers to accessing high-quality programs (Rapp & Knutas, 2023). Therefore, to improve the professionalism of teacherpreneurs, it is not only necessary to improve personal abilities, but also to make systematic efforts to create an educational environment that encourages a culture of collaboration, innovation, and lifelong Learning.

Bridging Industry Exposure, Structured Professional Development, and Entrepreneurial Orientation

This study proposes a comprehensive theoretical framework to link three key elements: industry-based work experience, planned professional training, and entrepreneurial orientation, mediated by personal factors (motivation and attitudes) and organizational support (school environment). By abandoning the binary perspective on teacher development (training versus experience), this framework leads to a dynamic integration model. It firmly positions entrepreneurial orientation as an educational mindset as a desired outcome, rather than a business skill. It

recognizes the mediating role of attitudes and motivation, which determine how teachers receive and apply input from external sources. It overlooks the supportive role of the school environment, which bridges practice and policy.

This framework is based on three complementary theories: Work-Based Learning Dogara et al. (2020), which emphasizes experiential Learning through real-world industry engagement; Professional Learning and Development Bergmark (2023), which views teacher growth as a social, contextual, and continuous process; and Entrepreneurship Education International Commission on the Futures of Education & Indonesian National Commission for UNESCO (2022), which fosters creativity, initiative, and problem-solving as core competencies. By integrating these perspectives, this model offers a holistic roadmap for developing teacherpreneurs who are not only technically competent but also innovative, adaptive, and capable of driving change in vocational education.

This is a significant contribution because there is no comprehensive operational definition of teacherpreneurship in the literature (Zhao et al., 2022). A measurable foundation for future research and policy is provided by the six indicators identified in this study (Table 1): innovation, creativity, leadership, responsible risk-taking, solution orientation, and industry collaboration.

CONCLUSION

The findings indicated that teachers' work motivation ($\beta = 0.28$), attitudes ($\beta = 0.17$), and work experience ($\beta = 0.18$) directly influenced the professionalism of entrepreneurial instructors. The school work environment directly influences teacher professional development ($\beta = 0.78$). The teacherpreneur's character is indirectly shaped by the school work environment.

This research primarily aims to establish a novel theoretical framework that integrates work experience, professional training, and the characteristics of vocational educators. This study offers a preliminary metric to assess the characteristics of vocational educators, which have not been adequately delineated in the vocational education literature.

There are various restrictions on this study. One of them is that it solely covers Semarang City's vocational instructors in the automobile vocational technology industry. Furthermore, the majority of respondents claimed to be unfamiliar with the teacherpreneur concept, indicating that they required further explanations before completing the questionnaire. This could have an impact on how they perceived and comprehended the tool.

Integrating digitalization and green entrepreneurship into vocational teacher training is advisable. Furthermore, for advanced research, employing a qualitative approach is advisable to validate results and enhance the generalizability of the findings. Cross-regional or cross-country analyses are also advised.

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