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Professional Competence of Business and Tourism Vocational School Teachers: The Effectiveness of Online Training and the Success of Industrial Internships with Achievement Motivation Mediation

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A B S T R A C T

This study aims to determine the direct and indirect influence of the effectiveness of online training, the success of industrial internships, the motivation for achievement and the professional competence of vocational school teachers in the field of business and tourism. This study uses a quantitative approach with a constellation model. The sample in this study was 161 teachers using the proportionate stratified random sampling technique. The data collection technique is in the form of a questionnaire using the Likert scale. The test of the requirements of the research analysis used the normality test, the linearity test, the multicollinearity test and the heterokedasticity test. The data analysis technique in this study uses path analysis. The results of the data analysis are as follows: 1) The effectiveness of online training has a direct effect on the professional competence of teachers by 0.159 (15.9%) with a t count of 2,282 > 1,975. 2) The success of industrial internships has a direct effect on the professional competence of teachers by 0.269 (26.9%) with a t count of 4.034 > 1.975. 3) Motivation for achievement has a direct effect on the teacher's professional competence of 0.489 (48.9%) with a t calculation of 7.370 > 1.975. 4) The effectiveness of online training had a direct effect on achievement motivation of 0.448 (44.8%) with a t count of 5.941 > 1.975. 5) The success of industrial internships has a direct effect on achievement motivation of 0.338 (33.8%) with a t count of 4.474 > 1.975. 6) The effectiveness of online training has an indirect effect on teachers' professional competence through achievement motivation of 0.2190 (21.90%) with a sobel test value of 4.62 > 1.96). 7) The success of industrial internships has an indirect effect on teachers' professional competence through achievement motivation of 0.1652 (16.52%) with a sobel test score of 3.84 > 1.96.

Keywords: *Effectiveness of Online Training, Industrial Internship Success, Motivation to Achieve, Professional Competence of Teachers*

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INTRODUCTION

Vocational education has a strategic role in preparing human resources who are competent, competitive, and able to adapt to the development of the industrial world. However, data from the Central Statistics Agency (BPS) as of February 2025 in Indonesia, the Open Unemployment Rate (TPT) reached 7.28 million with a percentage of 4.76%. Judging from the highest level of education completed, vocational school graduates are still the highest contributors to TPT, which is 8.62% of TPT contributors, which reflects the gap between curriculum and learning practices in vocational schools and the real needs demanded by the business world and the industrial world (DUDI) (Hanifah et al., 2025). In line with TPT data, based on the results of the Teacher Competency Test conducted by the Ministry of Education and Culture until 2019, it tends to show unsatisfactory teacher competency conditions, namely recording an average number below the minimum competency standard (SKM) of 54.05. The UKG score for vocational school teachers nationally has an average of 61.91, which in the

group of teachers in the business and tourism sectors is still below the average score of national vocational school teachers which is 58.33 (Data and Information Section of BBPPMPV Business and Tourism, 2021). This shows that vocational school teachers, especially in the business and tourism sectors, have not fully reached the minimum competency standards set.

Based on the National Education System Law Number 20 of 2003, articles 15 and 18, it is stated that vocational vocational vocational vocational professional education units as a continuation of basic education that aims to prepare students specifically especially in certain fields of work. At vocational schools, teachers are required to master professional competencies that are in line with the development of DUDI. Based on data, the number of vocational schools in the business and tourism sector is 8981 vocational schools, with details of business and management fields as many as 6678 vocational schools and 2303 vocational schools in the tourism sector. The number of vocational school teachers in the field of business and tourism is 45,606 people, with details of 33,896 teachers in the field of business and management and 11,710 teachers in the field of tourism. With the condition that the number of teachers is 45,606 people, who have participated in vocational training activities based on industrial internships (*Upskilling* and *Reskilling*) in the 2020-2025 range, only 7897 people (17.31%) participated in industrial internship-based vocational training activities (Data and Information Section of BBPPMPV Business and Tourism, 2025).

According to (UNESCO, 2020) That 70% of global educational institutions have used digital technology in learning, shows that the use of information technology is now an important foundation for creating a learning process that is relevant and adaptive to the times. In fact, currently the industrial world in Indonesia has utilized technology *Internet of Things* (IoT) that functions to reduce dependence on human labor (Eliza, 2021). Based on a study by (Hwang, 2019) emphasized that teachers who receive technology-based training (online) show better ability to deliver material interactively, as well as encourage active learning. Through the government's push towards digital transformation and online training program initiatives to overcome challenges, especially in reaching remote areas and underserved communities. Teacher training that emphasizes hands-on practice and active involvement has been shown to have a great influence on improving teachers' ability to use technology appropriately and in context (Cohen & McIntyre, 2024). Through this online training, teachers' behavior, which was previously limited to conventional methods, is expected to transform towards digital-based learning.

Vocational teachers who have high professionalism can connect theoretical learning in the classroom with practical needs in the world of work, so that students acquire not only knowledge, but also skills that are in accordance with the demands of the industry (Scott, 2021). Conditions in the field of productive teachers as the main implementers of vocational learning often lack direct experience in the industry, even though the success of industrial internships can improve their pedagogical and professional competencies so that learning remains in harmony with technological advances and the needs of the current world of work (Harjanto & Wahyuni, 2021).

Internship programs have a positive impact on teacher competence, that teachers find internship programs necessary to improve and refine their teaching skills in real classrooms (Jha & Milan, 2023). Through training, participants will gain professional skills and competencies with instructor direction and supervision during the training process (Orishev & Burkhonov, 2021). Teachers in the productive field should have industrial work skills as a provision and prerequisite for competency-based learning. For this reason, teachers in the productive field need to be given training in industrial competency mastery and competency-based education mastery (*Competency based education*). Industrial competency training for vocational teachers in the productive field is recommended to be carried out in the form of mandatory practical work in the industry, namely internships. To realize these activities, vocational teachers in the productive field at vocational schools are alternately assigned to participate in real work practices in the industry, which in this case is an industrial internship program (Deviana et al., 2024).

Teachers' professional competence is formed through a continuous learning process, one of which is influenced by motivation and professional development activities such as industrial training and internships. In line with opinion (Enriko, 2018), motivation is an internal drive that makes a person motivated to do an action or activity. Strong motivation encourages teachers to innovate, improve performance, and adapt to the development of science and technology. According to (Mustofa & Medan, 2018) Low motivation in a teacher causes professional stagnation and has an impact on declining the quality of learning. Teachers with low motivation tend to carry out tasks without directed planning, work routinely without clear goals, and simply fulfill formal obligations. This situation has the potential to reduce the quality of educational processes and outcomes. On the contrary, motivated teachers will take advantage of training and internship opportunities as a means of self-development. Teachers who gain quality internship and training experience will be increasingly motivated to excel in their jobs.

Training *Upskilling* and *Reskilling* industry standard has been carried out since 2020 until now by the Vocational Education Quality Assurance Development Center (BB/BPPMPV). In 2024, the achievement of the IKP of the Directorate General of Vocational Education in the percentage of educational units that implement quality learning, quality assurance and cooperation with the world of work will be obtained as many as 18,413 education units (an achievement of 63.37%). These achievement indicators include industry-standard Upskilling and Reskilling programs, including: a) the signing of 334 education unit document agreements with industry partners, b) educators and education personnel who participated in training as many as 17,687 (7 BB/BPPMPV), c) Vocational learning models developed with partners in the world of work with a total of 40 learning models based on the expertise of their respective vocational schools (Directorate General of Vocational Education, 2024). The success of learning involves all the main components of the teaching and learning process, namely teachers, students and the interaction between the two and supported by learning elements including a curriculum that is in harmony with the world of work, learning methods (PBL, Tefa, CBL, CML), supporting facilities and infrastructure, including digital platforms.

In line with the effectiveness of online training, vocational competence cannot be separated from real practice, so hands-on experience in the industry becomes an important foundation in shaping teachers' professional identities while improving teachers' skills (Anther, 2022). Through industrial internships, teachers gain new insights into work practices and learning approaches, which can then be adapted to improve the effectiveness of classroom teaching (Gagnon et al., 2024). This process helps transform theoretical knowledge into practical skills that are relevant to the needs of the world of work (Ministry of Education and Culture, 2022).

Motivation for achievement has an important role in improving teachers' professional competence. Individuals who have a strong drive to learn will be more involved in self-development activities, while low motivation makes the learning process not optimal (Nailan et al., 2024) as well as participate in professional development, including the intensity, consistency, and learning methods they choose (Richter et al., 2019). In addition, the motivation to excel to improve knowledge, quality of practice, and career development encourages teachers to actively participate in professional training (Njenga, 2022). Based on the above context, it is important to test a causal model that explains the relationship between the effectiveness of online training, the success of industrial internships, motivation to achieve, and the professional competence of vocational teachers in the field of Business and Tourism, so that it can provide an empirical basis for the formulation of a more effective and sustainable strategy to improve the professionalism of vocational teachers.

METHODS

This study uses a quantitative approach with a constellation model. This study examines the influence of the effectiveness of online training, the success of industrial internships and the motivation for achievement on the professional competence of vocational school teachers. In the design of this study, there is a constellation model for the measurement of influences, namely independent (free), intervening (intermediate) and dependent (bound) variables. The population in this study is participants in the 2025 Vocational Vocational Teacher Training for Business and Tourism Vocational Teachers Batch 3 using the *proportionate stratified random sampling* technique of 161 vocational school teachers by dividing the respondents into several clusters based on business and tourism expertise programs totaling 8 expertise programs with a percentage of each number of participants.

The indicators of the effectiveness of online training in this study are adjusted to the theory of KirkPatrick (2016), including: a) reaction *(reaction)*, b) learning *(learning)*, c) work behavior *(behavior)* and d) training results *(result)* with 14 instrument statements. The indicators of industrial internship success in this study were adjusted to the structure of the industrial internship program in the training guide *Upskilling* and *Reskilling* industry standards for vocational teachers of Business and Tourism Vocational Schools, including: work procedures, standard operating procedures, production processes, strengthening industrial competencies, consulting and industry assistance with 20 instrument statements. The indicators of achievement motivation in this study were adjusted to the theory (McClelland, 2019) includes: a) Need for achievement/*Need for achievement* (n-Ach), b) The need for power/*Need for power* (n-Pow), c) Need for affiliation/*Need for affiliation* (n-Aff) with 14 instrument statements. The indicators of professional competence in this study are adjusted to theory (Spencer & Spencer, 1993) Includes: 1) *Motivations* (motif), 2) *Features* (Nature), 3) *Self-Concept* (self-concept), 4) *Knowledge* (knowledge) and 5) *Skill* (skill) with 30 instrument statements. Data collection techniques on the effectiveness variables of online training using scale measurement *Likert*.

Data processing is carried out using the *Statistical Package for the Social Sciences* (SPSS 29) through the stages of validity and reliability tests, classical assumption tests, and path analysis *(path analysis).* The research instrument is tested for validity and reliability to ensure that the instrument can accurately measure the concept or phenomenon it wants to depict (Bushmakin & Cappelleri, 2022). The classical assumption test in this study consists of: a) normality test, carried out using the *Kolmogorov-Smirnov* that is, a test used to find out whether a sample follows a certain distribution, such as a normal distribution. b) linearity test, used to see the extent to which the cause-effect relationship between the variables under study appears clear and consistent (Iba & Wardhana, 2024a). c) Multicollinearity test, which serves to determine whether or not there is a correlation between independent variables in the regression model (Ghozali, 2021). d) Heteroscedasticity test, identifying whether the absolute residual variation in the regression model is constant or different in each observation (Ghozali, 2021). The data analysis of this study uses path analysis *(path analysis)* that is, the extension of multiple regression used to estimate the size and significance of causal relationships among a number of variables (Dumas & Edelsbrunner, 2023). So it can be concluded that the path analysis to determine the influence of free variables on bound variables and intervening variables directly or indirectly.

FINDINGS AND DISCUSSION

Data processing was carried out using the *Statistical Package for the Social Sciences* (SPSS 29) program through the stages of validity and reliability tests, classical assumption tests, and *path analysis.* The results of the analysis are presented systematically to provide an empirical picture of the relationship between variables in this study.

Validity Test and Reliability Test

Table 1. X1 Validity Test

No	Pearson Correlation	Remarks	No	Pearson Correlation	Remarks
1	0.659	Valid	8	0.640	Valid
2	0.712	Valid	9	0.766	Valid
3	0.915	Valid	10	0.693	Valid
4	0.790	Valid	11	0.733	Valid
5	0.785	Valid	12	0.864	Valid
6	0.738	Valid	13	0.780	Valid
7	0.798	Valid	14	0.775	Valid

(Source: Primary data processed using SPSS vers.29, 2026)

Based on the table above, the results of the validity test of the 14 items of the statement of the effectiveness variables of online training were obtained that all statement items were declared valid because the value of r calculated was greater than the r of the table, with the r value of table 14 items being 0.5324.

Table 2. X2 Validity Test

No	Pearson Correlation	Remarks	No	Pearson Correlation	Remarks
1	0.874	Valid	11	0.863	Valid
2	0.774	Valid	12	0.867	Valid
3	0.851	Valid	13	0.867	Valid
4	0.943	Valid	14	0.804	Valid
5	0.759	Valid	15	0.928	Valid
6	0.794	Valid	16	0.905	Valid
7	0.890	Valid	17	0.812	Valid
8	0.890	Valid	18	0.753	Valid
9	0.890	Valid	19	0.679	Valid
10	0.897	Valid	20	0.749	Valid

(Source: Primary data processed using SPSS vers.29, 2026)

Based on the table above, the results of the validity test of the 20 items of the statement of the success variable of industrial internship were obtained that all statement items were declared valid because the value of r calculated was greater than the r of the table, with the r value of the table of 20 items being 0.4438.

Table 3. Z Validity Test

No	Pearson Correlation	Remarks	No	Pearson Correlation	Remarks
1	0.846	Valid	8	0.577	Valid
2	0.834	Valid	9	0.881	Valid
3	0.851	Valid	10	0.667	Valid
4	0.871	Valid	11	0.631	Valid
5	0.815	Valid	12	0.787	Valid
6	0.697	Valid	13	0.799	Valid
7	0.594	Valid	14	0.845	Valid

(Source: Primary data processed using SPSS vers.29, 2026)

Based on the table above, the results of the validity test of the 14 items of the achievement motivation variable statement were found that all statement items were declared valid because the value of r calculated was greater than the r of the table, with the r value of the 14 items table being 0.5324.

Table 4. Validity Test Y

No	Pearson Correlation	Remarks	No	Pearson Correlation	Remarks
1	0.766	Valid	16	0.746	Valid
2	0.828	Valid	17	0.816	Valid
3	0.869	Valid	18	0.765	Valid
4	0.833	Valid	19	0.576	Valid
5	0.797	Valid	20	0.638	Valid
6	0.848	Valid	21	0.718	Valid
7	0.813	Valid	22	0.913	Valid
8	0.718	Valid	23	0.725	Valid
9	0.845	Valid	24	0.835	Valid
10	0.849	Valid	25	0.879	Valid
11	0.841	Valid	26	0.844	Valid

No	Pearson Correlation	Remarks	No	Pearson Correlation	Remarks
12	0.881	Valid	27	0.931	Valid
13	0.755	Valid	28	0.931	Valid
14	0.807	Valid	29	0.897	Valid
15	0.850	Valid	30	0.863	Valid

(Source: Primary data processed using SPSS vers.29, 2026)

Based on the table above, the results of the validity test of the 30 items of the statement of the variable of the teacher's professional competence were obtained that all statement items were declared valid because the value of r calculated was greater than the r of the table, with the r value of the table of 30 items being 0.3610.

Table 5. Reliability Test Results

Variabel	*Cronbach's Alpha*	Remarks
The effectiveness of online training	0,944	Reliabel
Success of industrial internships	0,978	Reliabel
Motivation to perform	0,945	Reliabel
Teachers' professional competence	0,982	Reliabel

Based on the table above, the results of the reliability test of all question items have met the reliability test because all items have *a Croncbach's Alpha* value greater than 0.7, so it can be said that all question items meet the reliability value.

Respondent Description

Table 6. Respondent Description

No	Respondent Description	Quantity	Percentage
1	Membership Programs		
	a. Professional Administration	35	21.74%
	b. Accounting	36	22.36%
	c. Online Business Marketing	23	14.29%
	d. Caregiver	9	5.59%
	e. Hospitality	12	7.45%
	f. Layout	22	13.66%
	g. Fashion Styling	12	7.45%
	h. Tourism Services Business	12	7.45%
2	Gender		
	a. Male	41	25,47 %
	b. Women	120	74,53 %
2	Age		
	a. < 30 years old	45	27,59 %
	b. 31-40 years old	68	42,24 %
	c. 41-50 years old	37	22,98 %
	d. > 51 years old	11	6.83%
3	Long Teaching Time		
	a. < 5 years	48	29,81 %
	b. 6-10 years	48	29,81 %
	c. 11-15 years	26	16,15 %
	d. 16-20 years	23	14,29%
	e. 21-25 years old	13	8,07%
	f. > 26 years old	3	1,86%
4	Education		
	a. D3	2	1,24 %
	b. D4/S1	135	83,85 %
	c. S2	23	14,29%
	d. S3	1	0,62%

(Source: Primary data processed using SPSS vers.29, 2026)

Classic Assumption Test

Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		161
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	4.73045421
Most Extreme Differences	Absolute	.055
	Positive	.055
	Negative	-.048
Test Statistic		.055
Asymp. Sig. (2-tailed)[c]		.200[d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Figure 1 Uji Kolmogorov-Smirnov

(Source: Primary data processed using SPSS vers.29, 2026)

Based on figure 1, the value of the *Kolmogorov-Smirnov Test* is 0.200, this means that the data has a normal distribution because it shows that the results of the normality test have a significance value greater than 0.05

Linearity Test

Table 7. Linearity Test Table

No	Variabel	Deviation from Linierity	Remarks
1	Y*X1	0.341	linier
2	Y*X2	0.072	linier
3	Y*Z	0.720	linier

(Source: Primary data processed using SPSS vers.29, 2026)

Based on table 8, the results of the linearity test of the relationship between variables can be found that the significance values *(Deviation from Lineierity)* are 0.341, 0.072 and 0.720. The three variables have a linear relationship because the significance value *(Deviation from Lineierity)* is more than 0.05.

Multicollinearity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.624	7.380		.085	.933		
	X1	.492	.216	.159	2.282	.024	.435	2.301
	X2	.418	.104	.269	4.034	<.001	.472	2.119
	Z	.996	.135	.489	7.370	<.001	.478	2.092

a. Dependent Variable: Y

Figure 2. Multicollinearity Test

(Source: Primary data processed using SPSS vers.29, 2026)

Based on figure 2, the *tolerance value* and *inflation factor* (VIF) for each variable, namely X_1 tolerance value and IF are 0.435 and 2.301. For X_2 , the *tolerance* and VIF values are 0.472 and 2.119. For Z, the *tolerance* and VIF values were 0.478 and 2.092. The three variables have a *tolerance value* of more than 0.1 and a VIF value of less than 10, so it can be said that the data used in the data analysis of this study does not occur multicollinearity.

Heterokedasity Test

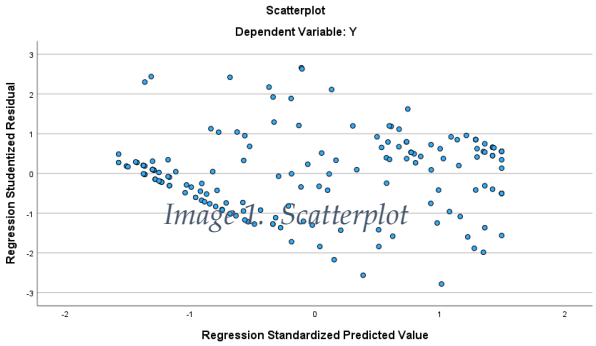

Image 1. Scatterplot

Figure 3

Based on figure 3, it can be seen that the data points are spread above or below the value of 0 and are not patterned, so it can be concluded that the data in this study do not experience symptoms of heterokedasticity.

Test Data Analysis

The correlation calculation of each variable with the other variables can be presented as follows:

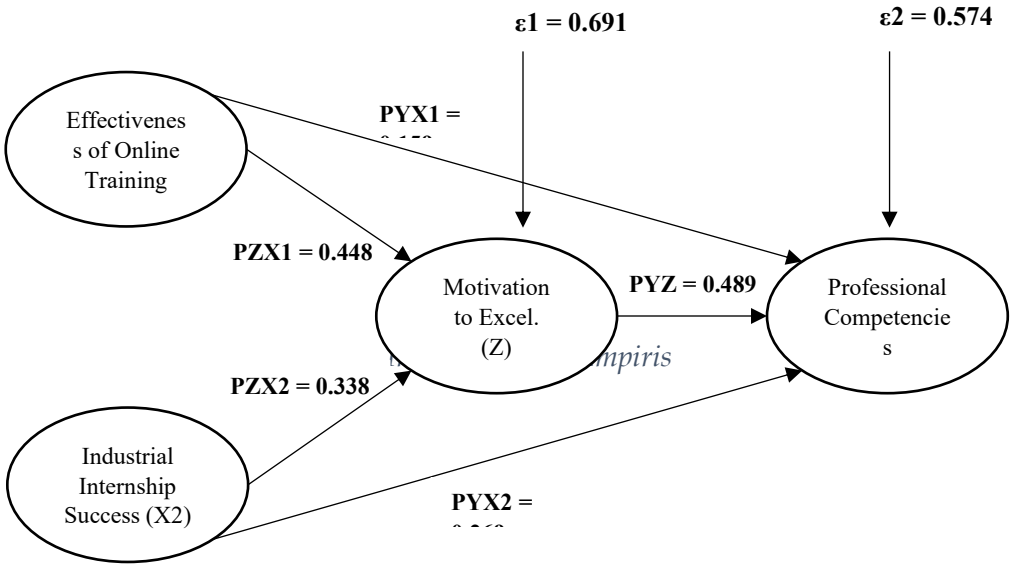

Figure 4

Based on the test results, the structural equations for the empirical model on structural equation 2 and the elaboration of the relationships of each variable X1, X2 and Z to variable Y are as follows:

$$Y = PYX1 + PYX2 + PYZ + \varepsilon 2$$

$$Y = 0.159X1 + 0.269X2 + 0.489z + 0.574$$

Table 7. The Relationship Between Variables X1, X2 and Z to Variable Y

Influence	Variabel	Hubungan	Value
Live	The effectiveness of online training on professional competence	X1 – Y	0,159
	The success of industrial internships on professional competence	X2 – Y	0,269
Indirect	The effectiveness of online training on professional competence through the relationship with achievement motivation	X1-Z-Y	0.448 x 0.489 = 0.2190 = 21.90%
	The success of industrial internships on professional competencies through the	X2-Z-Y	0.338 x 0.489 = 0.1652 = 16.52%

Influence	Variabel	Hubungan	Value
	relationship with achievement motivation		
Total Direct and Indirect Influence	The effectiveness of online training on professional competence and the success of industrial internships on professional competence	Direct Influence + Indirect Influence	0,159+0,269+ 0,2190+0,1652 = 0.8122 = 81.22%
Total R2	The combination of the effectiveness of online training and the success of industrial internships on professional competence through achievement motivation	Combined Influence	0.670 = 67%
Other Variables	On professional competence beyond the variables of online training effectiveness, success of industrial internships and motivation for achievement	1- R2	1-0.670 = 0.33 = 33%

(Source: Primary Data Processed using SPSS vers.29, 2026)

Discussion

The Direct Influence of tthe Effectiveness of Online Training on Teachers' Professional Competence

Based on the results of data analysis, the variables of the effectiveness of online training have a significant direct influence on teachers' professional competence. The hypothesis for this variable is accepted by having a significance level of 0.024 and a calculated t-value of 2.282, where the significance value meets the requirements of < 0.05 and the t-value of the calculation > the table t of 1.975. The magnitude of the direct influence of the effectiveness of online training on teachers' professional competence was 0.159 or 15.9%, which means that teachers' professional competence was influenced by the effectiveness of online training by 15.9%. The measurement results showed that most of the respondents had a very high perception of all the training indicators that had been followed. These findings indicate that the effectiveness of online training provides significant benefits for vocational school teachers in the development of professional competencies, which can then be an important provision in supporting the implementation of learning in schools.

The results of this study are in line with the results of the research (Paristiowati et al., 2022), where there is a need for activities that can equip teachers with the latest knowledge and skills to be able to adapt to conditions and developments of the times, one of which is through training on the application of online learning models that are innovative and fun for teachers. With the effectiveness of online training, teachers are expected to have mastery of Information and Communication Technology (ICT) as an effort to support the learning process as well as a means of self-professional development (Syamsuri & Nindiasari, 2021).

The Direct Influence of the Success of Industrial Internships on Teachers' Professional Competence

Based on the results of data analysis, the success variable of industrial internships has a significant direct influence on teachers' professional competence. The hypothesis on this variable is accepted by having a significance level of 0.001 and a calculated t-value of 4.034, where the significance value meets the requirements of < 0.05 and the t-value of the calculation > t of the table is 1.975. The magnitude of the direct influence of the success of industrial internships on teachers' professional competence was 0.269 or 26.9%, which means that teachers' professional competence was influenced by the success of industrial internships by 26.9%. From each of these indicators, most of the respondents have very high scores related to the success of industrial internships that have been implemented, so it can also be interpreted that the success of industrial internships is capital in learning and developing the competencies of teachers themselves, among others, it can provide insights such as SOPs that apply in the industry, work culture in the industry, knowledge of theoretical concepts realized in the industry and the challenges that are industry so that it can support the success of learning in schools.

The results of this study are in line with the results of the research (Cai et al., 2022) That is, the implementation of internships that are designed in a structured manner is able to strengthen teachers' professional competence through increasing autonomy, learning relevance, and the relationship between theory and practice. To be able to teach vocational subjects effectively, teachers need to master professional knowledge and competence in the field of vocational expertise that is the basis of the practice (industrial internship) (Husband, 2018). The same thing is shown in research (Dewi et al., 2024) that the industrial teacher internship program is a strategic instrument in transforming vocational education in the era of the Industrial Revolution 4.0. Its effectiveness is determined by adaptive planning, integration of industry experience into the curriculum, and systematic continuous evaluation to improve technical competencies and *soft skills* teachers in strengthening the relevance of learning and the readiness of graduates to face the needs of modern industry.

The Direct Influence of Achievement Motivation on Teachers' Professional Competence

Based on the results of the data analysis, the achievement motivation variable has a significant direct influence on the professional competence of teachers. The hypothesis on this variable is accepted by having a significance level of 0.001 and a calculated t-value of 7.370, where the significance value meets the requirements of < 0.05 and the t-value of the calculation >of the table t-value of 1.975. The magnitude of the direct influence of achievement motivation on teachers' professional competence was 0.489 or 48.9%, which means that teachers' professional competence was influenced by achievement motivation by 48.9%. From each of these indicators, most of the respondents have very high values related to the motivation of the participants who participate in the program, so it can also be interpreted that the motivation to excel is the foundation for the formation of professional competence. In this case, it suggests that efforts to improve teachers' professional competence are not enough only through online training and industrial internships, but also need strategies that foster and strengthen motivation to excel as a sustainable intrinsic factor.

The results of this study are in line with the results of the research (Sampo et al., 2021) That is, the motivation for teachers' achievement is influenced by internal needs and external encouragement from the surrounding environment, which is stronger when supported by the availability of adequate facilities and infrastructure, including participating in human resource development activities through the program. *Upskilling* and *Reskilling*. Motivation to excel can foster the will and energy to direct all their potential in carrying out activities that support the achievement of learning goals, as well as resilience in facing various challenges and obstacles to achieve optimal results (Hasibuan & Dewi, 2021). Achievement motivation that focuses on completing tasks reflects an individual's drive to expand horizons, develop skills, and achieve continuous self-improvement (Harvey, 2023).

Direct Effect of the Effectiveness of Online Training on Achievement Motivation

Based on the results of data analysis, the variables of the effectiveness of online training have a significant direct influence on the motivation to excel. The hypothesis on this variable is accepted by having a significance level of 0.001 and a calculated t-value of 5.941, where the significance value meets the requirements of < 0.05 and the t-value of the calculation > the table t of 1.975. The magnitude of the direct influence of the effectiveness of online training on achievement motivation was 0.448 or 44.8%, which means that the motivation for achievement was influenced by the effectiveness of online training by 44.8%. In this study, most of the teachers showed an increase in motivation in carrying out their professional duties after participating in the training. This indicates that training has an important role in strengthening teacher motivation. The effectiveness of training is able to increase confidence because it provides additional knowledge and skills relevant to the learning task. In addition, the experience of participating in the training that has been obtained by all respondents also strengthens the positive impact on teacher motivation.

The results of this study are in line with the results of the research (Gustiana, 2022) that is, training that is effectively designed not only improves the teacher's understanding of his or her professional duties and responsibilities, but also fosters the drive to achieve better

performance than ever before. The effectiveness of training can strengthen teachers' motivation to excel, because it provides clarity of roles as well as self-confidence in carrying out tasks optimally. The effectiveness of the training program is determined by various factors, including teacher motivation, system support and policies of educational institutions, and the relevance of training materials to today's learning needs (Ulyah & Rindaningsih, 2025). For the training to run effectively, a systematic and planned approach is needed, paying attention to the integration of technology as an important part of the process of developing teacher competencies.

Direct Influence of the Success of Industrial Internships on Achievement Motivation

Based on the results of the data analysis, the success variable of industrial internships has a significant direct influence on the motivation to excel. The hypothesis on this variable is accepted with a significance level of 0.001 and a calculated t-value of 4.474, where the significance value meets the requirements of < 0.05 and the t-value of the calculation >of the table t-value of 1.975. The magnitude of the direct influence of industrial internship success on achievement motivation was 0.338 or 33.8%, which means that achievement motivation was influenced by industrial internship success by 33.8%. In this study, the indicators of industrial internship success variables showed that teachers gained additional insight into industrial work practices and industrial competency skills according to the field of expertise with the highest scores. The experience not only enriches teachers' practical knowledge about the world of work, but also provides a real picture of the competency standards required by the industry. In addition, direct involvement in the industrial environment can foster teachers' motivation to excel who are encouraged to continue to improve their abilities in order to be able to adapt learning to the needs of the business world and the industrial world.

The results of this study are in line with the results of research conducted by (Sabon et al., 2020) (Cabile, 2024) that the internship program that is prepared in line with the needs of the industrial world makes a significant contribution to increasing teacher motivation and improving the quality of the learning process. In addition, the importance of self-development efforts and continuous reflection for teachers as part of professionalism. In the context of vocational schools that are closely related to the dynamics and development of the industrial world, teachers are required to always be committed to sustainable professional development in order to be able to adapt their competencies to the changes and demands of the industry that continues to develop (Febrianti et al., 2023). A quality designed internship experience is able to strengthen the teacher's intrinsic motivation, sense of competence, and professional commitment. Conversely, less positive experiences have the potential to lower motivation and long-term effectiveness. Therefore, the quality and structure of internship programs are crucial factors in shaping the sustainability of educators' professional performance (Gomez, 2022) (Cai et al., 2022). Thus, teachers can act as role models as well as moral guides for students, so that positive values and work ethics can be internalized properly (Mardiana et al., 2024). Various studies also show that students who receive character and ethics coaching from teachers tend to be more prepared to enter the world of work and able to adapt effectively in the social environment (Effendi et al., 2024).

The Indirect Influence of the Effectiveness of Online Training on Teachers' Professional Competence through Achievement Motivation

Based on the results of data analysis, the variable of the effectiveness of online training has a significant indirect influence on the professional competence of teachers through motivation to achieve. The hypothesis on this variable is accepted, because from the results of data processing, the effect of the effectiveness of online training on achievement motivation has a significance value of 0.001, with t calculated > t table of 5.941 > 1.975; and the results of the calculation of the influence of achievement motivation on teachers' professional competence have a significance value of 0.001, with the t calculation of > t table of 7.370 > 1.975. The value of the indirect influence of the effectiveness of online training on teachers' professional competence through achievement motivation is 0.2190 or 21.9%, which means that teachers' professional competence is indirectly influenced by the effectiveness of online

training through achievement motivation of 21.9%. From the results of the Sobel test on the relationship between the effectiveness of online training and the professional competence of teachers through achievement motivation, it was obtained that the Z value was 4.62, which based on the criteria if Z > 1.96 means that there is a mediating relationship. So, among the variables of the effectiveness of online training on teachers' professional competence through achievement motivation there is a mediation relationship.

These findings show that online training that is designed and implemented effectively not only has a direct impact on improving teachers' knowledge or skills, but is also able to increase teachers' internal motivation to achieve better performance in carrying out their professional duties. Analysis of teacher training needs in the modern education era shows that digital transformation has fundamentally shifted the learning paradigm (Banarsari et al., 2023). In this context, online training is becoming increasingly relevant and effective because it is in line with the demands of digitalization, and is able to equip teachers with the competencies needed to implement technology-based learning optimally. The results of this study are in line with the results of the research (Astuti et al., 2021) that online training that is carried out on an ongoing basis plays an important role in improving teachers' professional competence as well as fostering motivation to continue to develop themselves. Effective training is not only a means of improving knowledge and skills, but also serves as a strategic instrument in human resource development and performance improvement. In addition, the motivation formed through the training experience also contributes directly to individual performance, thus encouraging teachers to be more active in improving their professional competence (Widiningsih & Yoyo, 2025).

The Indirect Influence of the Success of Industrial Internships on Teachers' Professional Competence through Achievement Motivation

Based on the results of data analysis, the success variable of industrial internships has a significant indirect influence on teachers' professional competence through motivation to excel. The hypothesis on this variable is accepted, because from the results of data processing, the effect of the success of industrial internships on achievement motivation has a significance value of 0.001, with t calculated > t table of 4.474 > 1.975; and the results of the calculation of the influence of achievement motivation on teachers' professional competence have a significance value of 0.001, with the t calculation of > t table of 7.370 > 1.975. The value of the indirect influence of the success of industrial internships on teachers' professional competence through achievement motivation is 0.1652 or 16.52%, which means that teachers' professional competence is indirectly influenced by the success of industrial internships through achievement motivation of 16.52%. From the results of the Sobel test on the relationship between the success of industrial internships and teachers' professional competence through achievement motivation, it was obtained that the Z value was 3.84, which based on the criteria if Z > 1.96 means that there is a mediating relationship. So, among the variables of the success of industrial internships on teachers' professional competence through achievement motivation there is a mediation relationship.

These findings show that successful industrial internship experiences not only provide teachers with increased knowledge and practical skills, but are also able to foster internal drive to achieve better performance in carrying out their professional duties. The results of this study are in line with the results of the research (Syarif et al., 2024) which shows that vocational teachers must be able to adapt to this trend to ensure that the learning materials delivered are relevant to the needs of the job market. One of the effective adaptation strategies is through an industrial internship program for teachers. Through internship activities, teachers gain first-hand experience of work practices, technology, and competency standards that apply in the industrial world, so that their professional insights and skills can develop. Collaboration between the world of education and the world of industry is very important in improving the quality of learning in vocational schools (Wahyudi & Saputra, 2023). Through the industrial internship program, teachers have the opportunity to understand firsthand the work process and technological developments applied in modern industry. The experience

provides more contextual insights for teachers, so that they can develop their curriculum and apply learning methods that are more relevant to the standards and needs of today's world of work.

CONCLUSION

The results showed that the effectiveness of online training, the success of industrial internships, and the motivation to excel had a significant contribution to teachers' professional competence. Directly, the effectiveness of online training had an effect of 0.159 (t = 2.282 > 1.975), the success of industrial internships was 0.269 (t = 4.034 > 1.975), and achievement motivation was 0.489 (t = 7.370 > 1.975), which indicates that achievement motivation is the most dominant factor in improving professional competence. In addition, the effectiveness of online training also had an effect on achievement motivation of 0.448 (t = 5.941 > 1.975), while the success of industrial internships was 0.338 (t = 4.474 > 1.975), which shows that these two variables are able to strengthen the motivational aspect of teachers. Indirectly, the effectiveness of online training had an effect on professional competence through achievement motivation of 0.2190 (Sobel = 4.62 > 1.96), and the success of industrial internships was 0.1652 (Sobel = 3.84 > 1.96). These findings confirm that effective online training and relevant industry internship experiences not only increase teachers' knowledge capacity and skills, but also strengthen motivation to excel as a crucial mediation mechanism in encouraging the continuous improvement of professional competencies. In this study, it is shown that the effectiveness of online training and the success of industrial internships have an important contribution in improving teachers' professional competence. Effective online training is able to enrich teachers' knowledge, skills, and understanding of technology-based learning innovations. Meanwhile, the success of industrial internships provides first-hand experience of work practices, operational standards, and technological developments used in the business world and the industrial world. These two experiences not only directly strengthen teachers' professional competence, but also encourage the growth of motivation to excel as an internal factor that strengthens professional development efforts in a sustainable manner. Thus, the integration between the effectiveness of online training, the success of industrial internships, and the motivation for achievement becomes an important theoretical foundation in explaining the process of improving teachers' professional competence, especially in the context of vocational education which demands high relevance to the needs of the industrial world.

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