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Increasing training effectiveness through strengthening Instructor Competence, Training Design, Training Environment, Training Materials and Achievement Motivation

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Abstract: This study aims to produce a strategy to improve the effectiveness of training through strengthening the variables of instructor competence, training design, training environment, training materials as independent variables and achievement motivation variables as intervening variables. A population of 685 resulted in 253 samples taken by proportional random sampling in 9 Fields of Expertise of Business and Tourism Vocational High School Teachers Participants in the BBPPMPV Business and Tourism Upskilling and Reskilling Training. This study used a survey method with a path analysis approach and SITOREM analysis. The results of this study can be concluded: 1) There is a significant positive direct effect between instructor competence, training design, training environment and achievement motivation on training effectiveness (Y); There is a significant positive direct effect between instructor competence, training design, training environment and training on achievement motivation; There is a significant positive indirect effect between instructor competence, training design, training environment and training materials on training effectiveness through achievement motivation. Achievement motivation cannot mediate instructor competence, training design, training environment on training effectiveness. The results of the SITOREM analysis show that the indicators that are still weak and need to be improved are: 1. interpersonal skills, 2. clarity of training objectives, 3. alignment of learning components, 4. learning support, 5. visual and interactive quality, 6. up-to-date and accuracy, 7. challenging objectives, 8. results orientation, 9. response to feedback, 10. learning support, 11. participant involvement, 12. learning, 13. reaction.

Keyword: Training Effectiveness, Instructor Competence, Training Design, Training Environment, Training Materials, Achievement Motivation, & SITOREM.

INTRODUCTION

Vocational High School is one of the levels of vocational education that organizes vocational education at the secondary school level that teaches basic special skills so that students are ready to work in certain fields of expertise. Vocational High Schools (SMK)

prepare students to be able to directly enter the world of work, be employed, or become entrepreneurs who can create new jobs, have a professional attitude and soft skills. SMK is a secondary level of education that aims to equip students with special skills so that they can improve their competence and be able to adapt in the work environment (Utami and Hudaniah, 2013). SMK aims to provide competent graduates who have expertise according to the needs of the business world and industry (DUDI) (Arikunto, 2014). The implementation of vocational education in Indonesia still faces various obstacles that are challenges. The lack of collaboration between vocational education providers and DUDI regarding the learning curriculum that is not in accordance with the needs of DUDI, this has resulted in many vocational education graduates who have not been able to meet the needs of specific DUDI skills and competencies. The availability of facilities, tools and learning technology in vocational education units is still largely unable to adapt to the developments used in DUDI. The low soft skills of vocational education graduates are an obstacle to socializing and adjusting to DUDI.

The expected result of the partnership between vocational education providers and DUDI is the availability of vocational education graduates who are ready to become workers and have the knowledge, experience, skills, and behavior that are in accordance with industry needs. Students who graduate from vocational education will have more job opportunities than students from public schools (Hamf & Woessmann, 2017), this is in line with Presidential Regulation Number 68 of 2022 concerning the Revitalization of Vocational Education and Vocational Training, which aims to improve the quality and suitability of vocational education with DUDI needs.

The number of open unemployment in Indonesia is currently still high. This can be seen from the table regarding the Open Unemployment Rate by Education Level issued by the Central Statistics Agency (BPS) as of August 2023 below.

Table 1. Open Unemployment Rate by Education Level (2023)

Level of education	Open Unemployment Rate Based on Education Level		
	2021	2022	2023
No / Never attended school / Not yet graduated from elementary school and graduated from elementary school	3,61	3,59	2,56
Junior High School	6,45	5,95	4,78
General High School	8,55	8,57	8,15
Vocational High School	11,45	9,42	9,31
Diploma I/II/III	5,87	4,59	4,79
Diploma IV/University	5,98	4,80	5,18

Source: BPS as of August 2023

Graduates from Vocational High Schools (SMK) are the highest contributors to open unemployment. The decline in the number of open unemployment from SMK graduates is quite significant every year, but SMK graduates are still the highest contributors to open unemployment compared to graduates of other levels of education. The success of SMK is measured by the number of graduates who work in the business world, industry, and who become entrepreneurs themselves. Although there are also graduates who continue their education to a higher level. The highest contributors to open unemployment are vocational education graduates. Of all the existing vocational education levels (SMK, D1/D2/D3/D4), SMK graduates have the highest number and level of open unemployment as shown in the following figure which is sourced from Sakernas.

Upskilling and reskilling are one of the training models that can be held in an effort to improve the competence of educators and students. Through Upskilling and Reskilling training, it is hoped that teachers will gain direct experience in feeling the work climate, work culture, and competency standards that they must have according to the demands of DUDI. In this case, teachers can change the situation in schools with enthusiasm to provide knowledge, technology, and skills obtained during internships in industry to students as fully and optimally as possible, so that learning outcomes that are in accordance with the needs of the industrial world can be achieved. Suharso (2013) emphasized that a teacher needs to continue to improve their quality by participating in various activities that help them become better at teaching and have other abilities, the goal is to help students have learning skills, including in gaining knowledge, developing themselves, doing certain tasks, and social relationships with others. Teachers have a major role in the level of quality of education.

Based on the Results of the Analysis of the Vocational Education Map (Directorate of Mitras DUDI, 2022), the number of vocational high school teachers who have qualified as subject teachers in productive fields and have competency certificates is only 22%, therefore various efforts need to be made to improve the quality of teachers through training, internships, education, certification, and also other activity programs. BBPPMPV Business and Tourism has the main task of implementing the development of quality assurance of vocational education in accordance with its field. In accordance with Presidential Instruction Number 9 of 2016 concerning the Revitalization of Vocational High Schools in order to improve the quality of Indonesian human resources, BBPPMPV Business and Tourism also participates as an organizer in the implementation of industrial internship training programs which are one of the stages of Upskilling and Reskilling training.

Currently, the number of DUDI that has established cooperation in the form of MoU with BBPPMPV Bispar and schools is still limited, there is still a lack of socialization regarding Upskilling and Reskilling training programs to DUDI, there is still a lack of partnerships between DUDI and schools, there is still a lack of institutions that act as mediators that bridge between DUDI and schools so that DUDI needs and school needs can be informed and accommodated are still obstacles that greatly affect the number of DUDI involvement that are willing to be a place and partner for teachers to carry out Industrial Internships.

The survey results show that the effectiveness of Upskilling and Reskilling training organized by BBPMVP Business and Tourism still needs to be optimized and strategies and methods are needed to increase the optimization of the effectiveness of the training. The effectiveness of training affects the achievement of the objectives of holding a training for training participants, students and the organization of origin of each training participant.

Research conducted by Susanne and Hochholdinge (2018) discusses the knowledge and skills possessed by professional trainers. This study identified 41 aspects of trainer knowledge through books and field studies, and then asked 200 trainers, 253 trainees, and 93 human resource practitioners to complete an online questionnaire. Respondents rated how important each aspect of knowledge was to a trainer on a six-point Likert scale. The results showed that trainers considered knowledge of subject matter and communication skills important, along with knowledge of specific teaching methods such as using certain training methods. In addition, trainers are expected to be able to explain clearly, make training plans to be implemented, build good relationships with trainees, and create a positive learning atmosphere.

Several previous studies presented above show that there are both internal and external factors from training participants that greatly influence the effectiveness of the training they attend. The first factor that is thought to influence the effectiveness of training is instructor competence. Instructors are professional educators with the main task of educating, teaching, guiding, directing, training, assessing, and evaluating training participants at course and skills training institutions. Therefore, a professional instructor must have standard academic qualifications and competencies (Zahari & Abd Latif, 2016).

METHOD

The study was conducted on respondents of Productive Teachers of Business and Tourism Vocational High Schools who had participated in the Upskilling and Reskilling training organized by BBPPMPV Business and Tourism in 2022. Respondents were teachers from 9 areas of expertise (Accounting, OTKP, BDP, Peksos, Hotel Accommodation, UPW, Culinary Arts, Fashion Design and Beauty)

A population is a generalization area consisting of: objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2015). The population of this study was Business and Tourism Vocational High School Teachers who participated in the Upskilling and Reskilling Training at BBPPMPV Business and Tourism, totaling 685 Vocational High School Teachers.

The determination of the number of research samples in this quantitative stage used a random sampling technique based on the Taro Yamane Formula. What is meant by a sample is the portion of the number and characteristics that represent and are owned by the population. In this study, the error rate and confidence level used were 5%. Based on the sampling calculation technique, the number of samples was determined to be 253 respondents. Then the number of samples was determined in each study program that became the area sample by determining the proportion according to the number of lecturers in the study program being studied.

The collection of research data was carried out using the technique of giving questionnaires to respondents. A questionnaire is a research instrument that asks respondents to fill in questions or statements given by researchers related to the thoughts, feelings, attitudes, beliefs, values, perceptions, experiences, personalities, and behavior of participants or respondents according to the variables being studied. The data analysis technique used in this quantitative study is to use descriptive statistics and inferential statistics.

In the context of this study, in addition to using Path Analysis, it also uses sitorem analysis. Scientific Identification Theory to Conduct Operation Research in Education Management (sitorem), is a scientific method used to identify variables (theory) to carry out "Operation Research" in the field of Education Management (Hardhienata, 2017). SITOREM analysis is carried out by identifying and analyzing three things, namely: a) Identification of the strength of influence between the Independent Variable and the Dependent Variable; b) Analysis of the value of research results for each research variable indicator, and c) Analysis of the weight of each indicator of each research variable based on the criteria of "Cost, Benefit, Urgency and Importance.

RESULTS AND DISCUSSION

Based on the causal model formed theoretically, a path analysis diagram and coefficient calculation values for each path will be obtained. The model testing is as follows:

Model of Influence of Paths Between Variables in Substructure-1

The Inter-variable Influence Model in substructure-1 consists of one variable, namely training effectiveness (Y) and four variables, namely instructor competence (X_1), training design (X_2), training environment (X_3), training materials (X_4) and achievement motivation (X_5), and one residual variable, namely Ɛy1. Based on this influence, the path model in substructure-1 is as follows $\hat{y} = \beta y_1 x_1 + \beta y_2 x_2 + \beta y_3 x_3 + \beta y_4 x_4 + \beta y_5 x_5 + \varepsilon_y$. The test results obtained the path coefficients in substructure-1 as follows:

Table 2. Path coefficient values in substructure-1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.810	8.991		1.202	.230
	Instructor Competence X1	.257	.049	.313	5.229	.000
	Training Design_X2	.234	.051	.261	4.617	.000
	Training Environment_X3	.120	.051	.119	2.369	.019
	Training Material X4	.138	.053	.137	2.600	.010
	Achievement Motivation X5	.174	.069	.134	2.507	.013

a. Dependent Variable: Training Effectiveness_Y

The calculation results from Table 2 show that the path coefficient in substructure-1 is obtained by the path coefficient of X1 against Y is $\beta y1 = 0.313$, X2 against Y is $\beta y_2 = 0,261$, X_3 on Y is $\beta y_3 = 0,119$, X_4 on Y is $\beta y_4 = 0,137$, and X_5 on Y is $\beta y_5 = 0,134$. Each value sig < 0,05, then H0 is rejected meaning significant. The results of the significance test of the regression equation on substructure-1 are shown in the following table:

Table 3. Results of the significance test on substructure-1

ANOVA[a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26311.405	5	5262.281	60.175	.000[b]
	Residual	21599.907	247	87.449		
	Total	47911.312	252			

a. Dependent Variable: Training Effectiveness_Y

b. Predictors: (Constant), Achievement Motivation X5, Training Environment_X3, Training Design_X2, Training Material X4, Instructor Competence X1

Probability value (sig) 0,000 < value 0,05 thus the regression equation $\hat{y} = 0,313x_1 + 0,261x_2 + 0,119x_3 + 0,137x_4 + 0,134x_5 + \varepsilon_y$ is significant. The results of this test confirm that the equation can be used to predict training effectiveness (Y) based on instructor competency scores (X_1), training design (X_2), training environment (X_3), training materials (X_4), and achievement motivation (X_5) and one residual variable, namely $\varepsilon y1$ the results of the linear regression model test on substructure-1 are presented in the following table:

Table 4. Summary of the regression model on substructure-1

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.741[a]	.549	.540	9.351	.549	60.175	5	247	.000

a. Predictors: (Constant), Achievement Motivation X5, Training Environment_X3, Training Design_X2, Training Material X4, Instructor Competence X1

b. Dependent Variable: Training Effectiveness_Y

Large error coefficient $\rho y_1 \varepsilon_1$ is $\sqrt{1 - R^2} = 0.036$. Based on the results of these calculations, the empirical causal relationship framework for the variables X_1, X_2, X_3, X_4, on Y, in substructure 1, as follows: $\hat{y} = 0,313x_1 + 0,261x_2 + 0,119x_3 + 0,137x_4 + 0,134x_5 + \varepsilon_y$. $R^2 yx_{54321} = 74,1\%$. The magnitude of the influence of other variables outside X_1, X_2, X_3, X_4, X_5 on Y is $\varepsilon_y = 0,036$.

Model of Influence of Paths Between Variables in Substructure-2

The model of influence between variables in substructure-2 consists of one dependent variable, namely achievement motivation (X_5) and two independent variables, namely instructor competence (X_1), training design (X_2), training environment (X_3), and training materials (X_4), as well as one residual variable, namely Ɛy4. Based on this influence, the path model in substructure-2 is as follows $\hat{y} = \beta x_1 x_5 + \beta x_2 x_5 + \beta x_3 x_5 + \beta x_4 x_5 + \varepsilon_{y2}$. The test results show that the path coefficients in substructure-2 are as follows:

Table 5. Path Coefficient Values in Substructure-2

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.573	7.361		7.822	.000
	Instructor Competence X1	.148	.044	.235	3.368	.001
	Training Design_X2	.102	.046	.148	2.224	.027
	Training Environment_X3	.113	.046	.146	2.462	.014
	Training Material X4	.198	.047	.256	4.225	.000

a. Dependent Variable: Achievement Motivation_X5

The calculation results from Table 5 show that the path coefficient in substructure-1 is obtained as the path coefficient X_1 on X_5 is $\beta_{X1X5} = 0{,}235$, X_2 on X_5 is $\beta_{X2X5} = 0{,}148$, X_3 on X_5 is $\beta_{X3X5} = 0{,}146$, and X_4 on X_5 is $\beta_{X4X5} = 0{,}256$. Each value sig < 0,05, then H0 is rejected meaning significant. The results of the significance test of the regression equation on substructure-2 are shown in the following table:

Table 6. Results of the Significance Test on Substructure-2

ANOVA[a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10209.247	4	2552.312	34.929	.000[b]
	Residual	18121.884	248	73.072		
	Total	28331.130	252			

a. Dependent Variable: Achievement Motivation_X5

b. Predictors: (Constant), Training Material X4, Training Design X2, Training Environment X3, Instructor Competence X1

Probability value (sig,) 0,000 < value 0,05 thus the regression equation $\hat{y} = 0{,}235x_1 + 0{,}148x_2 + 0{,}146x_3 + 0{,}256x_4 + \varepsilon_{y2}$ is significant. The results of this test confirm that the equation can be used to predict achievement motivation (X_5) based on instructor competency scores (X_1), training design (X_2), training environment (X_3) and training materials (X_4) and one residual variable, namely Ɛy. The results of the linear regression model test on substructure-2 are presented in the following table:

Table 7. Summary of the regression model on Substructure-2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.600[a]	.360	.350	8.548	.360	34.929	4	248	.000

a. Predictors: (Constant), Training Material X4, Training Design X2, Training Environment X3, Instructor Competence X1

b. Dependent Variable: Motivation to Achieve X5

Indirect influence

The indirect influence test in this study used the Preache and Hayes test. The test results are as follows:

Table 8. Results of the Indirect Influence Test

Effect	Coefficients	Std. Error	t statistics	Sig.
Instructor Competence (X1) → Achievement Motivation (X5) →Training Effectiveness (Y)	0.042	0,0355	8,0746	0,0000
Training Design (X2) → Achievement Motivation (X5) → Training Effectiveness (Y)	0.035	0,0389	7,9697	0,0000
Training Environment (X3) →Achievement Motivation (X5) → Training Effectiveness (Y)	0.016	0,0240	4,1325	0,0000
Training Material (X4) →Achievement Motivation (X5) →Training Effectiveness (Y)	0.019	0,0258	4,4047	0,0000

The results of the hypothesis testing are as follows:

1) Based on the results in the table, it can be seen that the t-statistic value resulting from the influence of Instructor Competence (X_1) on the effectiveness of training (Y) through Achievement Motivation (X_5) is 8.0746 with a significance value of 0.0000. The significance value is smaller than the significant alpha of 5% or 0.05. This means that there is a significant influence of Instructor Competence (X_1) on the effectiveness of training (Y) through Achievement Motivation (X_5). So the hypothesis that states "there is an indirect influence of Instructor Competence (X_1) on the effectiveness of training (Y) through Achievement Motivation (X_5)" is accepted. The coefficient value resulting from the indirect influence is 0.179, this value is smaller than the direct influence of 0.379, so it can be concluded that the mediating role of Achievement Motivation (X_5) is partial mediation.
2) Based on the results in the table, it can be seen that the t-statistic value resulting from the influence of Training Design (X_2) on training effectiveness (Y) through Achievement Motivation (X_5) is 7.9697 with a significance value of 0.0000. The significance value is smaller than the significant alpha of 5% or 0.05. This means that there is a significant influence of Training Design (X_2) on training effectiveness (Y) through Achievement Motivation (X_5). So the hypothesis that states "there is an indirect influence of Training Design (X_2) on training effectiveness (Y) through Achievement Motivation (X_5)" is accepted. The coefficient value resulting from the indirect influence is 0.069, this value is smaller than its direct influence of 0.240, so it can be concluded that the mediating role of Achievement Motivation (X_5) is partial mediation.
3) Based on the results in the table, it can be seen that the t-statistic value resulting from the influence of the Training Environment (X_3) on the effectiveness of training (Y) through Achievement Motivation (X_5) is 8.0746 with a significance value of 0.0000. The significance value is smaller than the significant alpha of 5% or 0.05. This means that there is a significant influence of the Training Environment (X_3) on the effectiveness of training (Y) through Achievement Motivation (X_5). So the hypothesis that states "there is an indirect influence of the Training Environment (X_3) on the effectiveness of training (Y) through Achievement Motivation (X_5)" is accepted. The coefficient value resulting from the indirect influence is 0.033, this value is smaller than its direct influence of 0.176, so it can be concluded that the mediating role of Achievement Motivation (X_5) is partial mediation.

4) Based on the results in the table, it can be seen that the t-statistic value generated from the influence of Training Material (X_4) on the effectiveness of training (Y) through Achievement Motivation (X_5) is 7.9697 with a significance value of 0.0000. The significance value is smaller than the significant alpha of 5% or 0.05. This means that there is a significant influence of Training Material (X_4) on the effectiveness of training (Y) through Achievement Motivation (X_5). So the hypothesis that states "there is an indirect influence of Training Material (X_4) on the effectiveness of training (Y) through Achievement Motivation (X_5)" is accepted. The coefficient value generated from the indirect influence is 0.070, this value is smaller than the direct influence of 0.372, so it can be concluded that the mediating role of Achievement Motivation (X_5) is partial mediation.

Table 9. Summary of indirect influence tests (Sobel test)

No.	Indirect	Z_{Count}	Z_{table}	Decision	Conclusion
1.	Instructor Competence (X1) towards Training Effectiveness (Y) Through Achievement Motivation (X5)	9,24	1,97	H0 rejected H1 accepted	Proven to mediate
2.	Training Design (X2) towards Training Effectiveness (Y) Through Achievement Motivation (X5)	7,41	1,97	H0 rejected H1 accepted	Proven to mediate
3.	Training Environment (X3) towards Training Effectiveness (Y) Through Achievement Motivation (X5)	4,33	1,97	H0 rejected H1 accepted	Proven to mediate
4.	Training Material (X4) towards Training Effectiveness (Y) Through Achievement Motivation (X5)	4,67	1,97	H0 rejected H1 accepted	Proven to mediate

Analysis of the Value of Research Results for each research variable indicator is calculated from the average score of each indicator of each research variable. The average score of each indicator is a description of the actual condition of the indicators from the perspective of the research subject as in the following table:

Table 10. Score of Variable Indicators

No	Indicators	Average Score
Training Effectiveness (Y)		
1	Reactions	3.88
2	Learning	3.92
3	Behaviors	4.12
4	Results	4.00
Instructor Competence (X_1)		
1	Mastery of Training Material	4.06
2	Interpersonal Skills	3.92
3	Instructional Skills	4.06
4	Professionalism	4.13
5	Training Management	4.14
Training Design (X_2)		
1	Suitability to Participant Needs	4.13
2	Clarity of Training Objectives	3.99
3	Instructional Component Alignment	3.83
4	Participant Engagement	4.02
5	Evaluation and Feedback	4.10

No	Indicators	Average Score
Training Environment (X_3)		
1	Physical Comfort	4,37
2	Learning Resource Availability	4,13
3	Instructional Support	3,98
4	Conducive Learning Environment	4,14
5	Participant Engagement	3,97
Training Materials (X_4)		
1	Content Suitability	4.15
2	Clarity and Structure	4.02
3	Visual and Interactive Quality	3.47
4	Currency and Accuracy	3.87
5	Learning Support	3.82
Achievement Motivation (X_5)		
1	Drive to Excel	4.01
2	Results orientation	3.77
3	Responsive to feedback	3.58
4	Challenging goals	3.94

CONCLUSION

Based on the value of direct influence and indirect influence on teacher performance (Y), the following conclusions can be drawn:

1) The value of direct influence of instructor competence (X_1) on training effectiveness (Y) is greater than the value of indirect influence of instructor competence (X_1) on training effectiveness (Y) through achievement motivation (X_5), so it can be concluded that achievement motivation (X_4) does not function effectively as an intervening variable between instructor competence (X_1) and training effectiveness (Y).
2) The value of direct influence of training design (X_2) on training effectiveness (Y) is greater than the value of indirect influence of training design (X_2) on training effectiveness (Y) through achievement motivation (X_5), so it can be concluded that achievement motivation (X5) does not function effectively as an intervening variable between training design (X2) and training effectiveness (Y).
3) The value of the direct influence of the training environment (X_3) on training effectiveness (Y) is smaller than the value of the indirect influence of the training environment (X_3) on training effectiveness (Y) through achievement motivation (X_5), so it can be concluded that achievement motivation (X_5) does not function effectively as an intervening variable between the training environment (X_3) and training effectiveness (Y).
4) The value of the direct influence of training material (X_4) on training effectiveness (Y) is smaller than the value of the indirect influence of training material (X_4) on training effectiveness (Y) through achievement motivation (X_5), so it can be concluded that achievement motivation (X_5) does not function effectively as an intervening variable between training material (X_4) and training effectiveness (Y).

Based on the results of the research conducted, it was concluded that the strategy to increase the effectiveness of Upskilling and Reskilling training organized by BBPPMPV Business and Tourism can be done through strengthening Instructor Competence by optimizing the interpersonal skills of instructors who teach in the training; Designing a Training Design that contains clear information about the objectives of the training and the alignment of all learning elements; Involving participants and providing instructional support in creating a comfortable training environment to support the implementation of the training; The training

materials provided contain information that is relevant to the needs of the participants and discusses the latest developments in the field of expertise being studied; Providing challenging and novel learning objectives, explaining the orientation of the results obtained after participating in the training and responding to feedback provided by participants in order to increase the motivation of training participants.

Implications

Based on the conclusions above, the implications of this study are as follows:

1. Optimization of instructor competency indicators that need to be improved in order to increase training effectiveness, namely: 1) Interpersonal Skills. Maintaining or developing indicators 1) Professionalism; 2) Training Management and 3) Mastery of Training Materials. Methods that can be done include: a) providing opportunities for instructors to participate in activities to improve and develop interpersonal skills; b) providing structured and constructive evaluation and feedback for facilitators on assessments carried out by training participants and colleagues; 3) Providing mentoring and coaching by other more experienced instructors, so that instructors gain guidance and direct experience.
2. Optimization of training design that needs to be improved in order to increase training effectiveness, namely: 1) Clarity of training objectives and 2) Alignment of instructional components. Maintaining or developing indicators: 1) Suitability of training design to participant needs; 2) Participant involvement in designing training design; and 3) Evaluation and feedback. Methods that can be done include: a) conducting a needs analysis (TNA); b) educational objectives must be SMART (specific, measurable, achievable, relevant and time); 3) varied training methods; 4) interesting training materials that are relevant to the needs of participants; 5) continuous evaluation of the implementation of training and instructors.
3. Optimization of the training environment that needs to be improved in order to increase the effectiveness of training, namely: 1) Instructional support and 2) Participant involvement. Maintain or develop indicators: 1) Physical comfort in the training environment; 2) Availability of learning resources in the training environment; and 3) Conducive learning environment. The methods used include: a) providing facilities and technological tools to support the learning process in training, such as comfortable classrooms, wifi, libraries, laptops and LCDs for presentations; b) creating a learning environment that supports participants to discuss and collaborate more often to share knowledge and experiences.
4. Optimization of training materials that need to be improved in order to increase the effectiveness of training, namely: 1) Learning support; 2) Visual and interactive quality; and 3) Up-to-date and accurate. Maintaining or developing indicators: 1) The content of the training material must be in accordance with the material to be studied; 2) The training material must be clear and structured. The methods used include: a) the training material that is prepared should be in accordance with the latest scientific developments and refer to reliable sources; b) the material is prepared clearly and structured, using language that is easy to understand and there is an explanation of important points so that participants can more easily remember and understand the material being studied. 5. Optimization of achievement motivation that needs to be improved in order to increase training effectiveness, namely: 1) Challenging goals; 2) Results orientation; and 3) Response to feedback. Maintaining or developing the Drive to Excel indicator. The methods that can be used include: a) awards for participant achievements can be in the form of certificates or STTPL, industry-recognized competency pins that can be used to add performance assessment points and certification, and providing conducive feedback containing specific suggestions and recommendations as a reference for each participant's work unit

for future competency improvement.

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