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## The Effectiveness of E-Training on the Attitude and Skill Competencies of Vocational High School Teachers during Covid-19 Pandemic in Indonesia

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### Abstract

Covid-19 pandemic has widely impacted lives. An adaptive strategy must be quickly formulated to maintain the quality of education, especially in vocational schools where technical skill competencies are highly needed. This study aimed to evaluate the effectiveness of e-training on the attitude and skill competencies of vocational high school teachers in Indonesia. A total of 614 Indonesian vocational high school teachers with various programs, including hospitality, administration, online business and marketing, culinary arts, fashion, cashier, tourism, haircut, and accounting, participated in e-training for a month. The training used an electronic learning management system to provide materials (modules, presentation slides, and tutorial videos), tasks, and evaluations. The tutorial class was carried out via video conference meeting. Attitude and skill competencies were evaluated before and after the training. Meanwhile, the teachers also gave positive feedback on the quality of the organizer and tutors. Data analysis used paired sample t-test and ANOVA with Tukey's post hoc test. The results showed that e-training significantly increased the score of attitude and skill competencies of the teachers ( $p < 0.05$ ). Moreover, a remarkable increase was found among hospitality (57.5%), cashier (50.1%), and online business and marketing (48.7%) teachers. However, the effect on fashion, tourism, and haircut teachers was less obvious. In addition, the satisfactory score on the quality of the organizer and tutors were 88.9 (very good), and 93.5 (excellence), respectively. The study concludes that a well-organized e-training could increase the attitude and skill competencies of Indonesian vocational high school teachers during the Covid-19 pandemic.

**Keywords:** E-Training, Skill, Teacher, Vocational High School

### Introduction

The Covid-19 pandemic has created a significant disruption in human life. Thousands of people have been either sick or killed by Covid-19. People's movements have been restricted, causing a rapid change in social life, business, tourism, and education (Haleem et al., 2020). Almost 1.6 billion learners from 200 countries have been affected due to the pandemic. In addition,

closures of schools and training centers during the pandemic have impacted the education system and might cause learning loss (Pokhrel & Chhetri, 2021). Learning loss during the Covid-19 pandemic has been reported to be up to 60 percent (Engzell et al., 2021).

Vocational schools may be more impacted during the pandemic than other school types (Ramadhan & Daryati, 2022). Vocational school is responsible for preparing graduates who are ready to work by providing a learning system that focuses on technical skill competencies (Pambudi & Harjanto, 2020). Fuller (2015) believed vocational school plays a vital role in producing skilled workers. However, teacher competencies might not have been updated during the pandemic as the training centers were closed.

In order to maintain the quality of vocational education, an innovation to adapt to the current condition is needed (Woolliscroft, 2020). Electronic learning (e-learning) system has been reported to be critical in performing the learning process during the pandemic (Alqahtani & Rajkhan, 2020). This technology allows students and teachers to meet virtually without physical presence, which may prevent learning loss during the pandemic. In addition, several popular majors in vocational school, including hospitality, administration, online business, culinary art, and fashion, are closely correlated with tourism that currently needed an attention as tourism revitalization is one of the priorities in pandemic resilience process.

This study aims to investigate: 1) the effectiveness of e-training on the attitude and skill competencies of Indonesian vocational high school teachers during the Covid-19 pandemic, 2) the satisfaction levels of teachers after e-training. The findings contribute to the literature on using e-training to improve learners' skills. We also provide the information that a good quality organization of e-training is essential for effectiveness. The following section of this paper is the literature review, followed by the method of data collection and parameter measurements, findings, discussion, and lasted by conclusion.

## **Theoretical Framework**

### **Training Program**

The training program has an essential role in providing a good quality employee, which could lead the employee to serve a high-quality service to his/her customers. The training program is an activity that has been designed to achieve the desired goals. According to Wilson (2005), a training program is a planned process to improve attitudes, knowledge, and skills behavior through learning experiences. The goal is to achieve an effective performance when conducting the activity by developing individual capabilities in supporting organizational needs. Strategic factors of the training program include:

- Identification of training needs
- Formulation of training objectives
- Planning and designing training
- Performing training
- Training assessment and evaluation

Another theory by John (2010), a training program is a systematic process for changing employee behavior to achieve organizational goals. Training relates to current employability technical skills and abilities, and it helps employees to master specific skills and abilities.

### Consumer Satisfaction

Kotler (2007) defines satisfaction as a person's feelings of pleasure or disappointment resulting from comparing the perceived performance (or outcome) of a product in relation to its expectations, with several indicators: loyalty; previous buying experience; product value; delivery (time, completeness) and; price level.

Another theory shows that satisfaction responds to consumer fulfillment (Kamran, 2012). Factors affecting customer satisfaction generally can be classified into two groups:

- External factors, such as service attributes, service providers, and the competitors
- Internal factors, such as customer value and mood.

### Methods

#### Respondents

A total of 614 vocational high school teachers participated in e-training organized by the Centre for the Development and Empowerment of Educators and Educational Personnel (CDETEP) for Business and Tourism, Ministry of Education and Culture of the Republic of Indonesia. The major of the teachers include hospitality (n=74), administration (n=124), online business and marketing (n=99), culinary arts (n=124), fashion (n=50), cashier (n=24), tourism (25), haircut (n=19), and accounting (n=75).

#### Procedure of E-Training

The teachers participated in the e-training from their own houses. The e-training used Zoom Cloud Meeting and learning management system (LMS) application. Zoom Cloud Meeting was used in virtual meetings scheduled for the tutorial provided by the tutor. In addition, a learning management system was used to access assignments, modules, presentation slides, pre-recorded videos, and evaluations. The training was done for one month.

#### Variables Measurement

Variables in the present study included teachers' attitudes, skills, and satisfaction levels. The teacher's attitude and skill were measured from both pre and post-training. Moreover, satisfaction level data both on the organizers and tutors were collected after the training.

#### Data Analysis

A dependent t-test was used to identify the differences between pre and post-training in a major. Furthermore, ANOVA with Tukey's post hoc test was used to see the difference in changes between the majors. The significance was determined at a p-value < 0.05.

### Findings

#### Attitude and Skill Changes

The attitude and skill changes of teachers can be seen in Table 1. The study showed that e-training significantly increased teachers' attitudes and skill scores in all groups ( $p < 0.05$ ). Moreover, various significant changes were observed among the teacher's group. Teachers of hospitality (57.5%), cashiers (50.1%), and online business (48.7%) had the highest positive changes compared to the others. On the other hand, teachers of fashion (9.7%), tourism (9.0%), and haircut (12.2%) showed the lowest changes. This may imply the effectiveness of e-training may differ between the majors.

Table 1

*Attitude and skill score changes among Vocational High School teachers after e-training*

Major	Pre-test score	Post-test score	Changes (%)*	P-value**
Hospitality	46.5 ± 11.0	73.2 ± 19.4	23.4 ± 24.6 (57.5) <sup>a,b,c</sup>	<0.001
Administration	61.8 ± 18.9	77.7 ± 16.7	16.8 ± 13.6 (25.6) <sup>b,c,d</sup>	<0.001
Online business and marketing	57.3 ± 13.1	85.2 ± 14.6	27.8 ± 19.1 (48.7) <sup>a,b</sup>	<0.001
Culinary art	62.1 ± 11.2	77.6 ± 12.7	24.8 ± 18.9 (24.9) <sup>a,b</sup>	<0.001
Fashion	68.1 ± 10.7	74.7 ± 15.9	6.6 ± 17.4 (9.7) <sup>d</sup>	0.010
Cashier	64.3 ± 8.4	96.5 ± 4.8	32.2 ± 8.4 (50.1) <sup>a</sup>	<0.001
Tourism	70.8 ± 9.1	77.2 ± 9.8	6.4 ± 8.3 (9.0) <sup>d</sup>	0.001
Haircut	80.2 ± 16.1	90.0 ± 21.9	11.0 ± 5.6 (12.2) <sup>c,d</sup>	<0.001
Accountancy	61.8 ± 16.2	77.7 ± 17.5	17.6 ± 2.0 (25.6) <sup>b,c,d</sup>	<0.001

\*different superscript in the same column shows significant difference analyzed by ANOVA with Tukey's post hoc test

\*\*different between pre and post-test analyzed by dependent t-test

### Satisfaction Levels

The satisfaction levels of teachers can be seen in Table 2. The results demonstrated that the teachers were satisfied with the performance of both organizers and tutors. Generally, the satisfaction levels with the organizers' performance were classified as very good (88.23%). Improvement might be made regarding training materials' applicability and ease of LMC access. Different from the satisfaction of tutors, all parameters were marked as excellent by the teachers (93.6%). Tutors' skill plays a significant role in increasing learners' knowledge and skill. Excellent tutors with excellent organization of e-training may provide a more effective improvement.

Table 2

*Satisfaction levels of the teacher on organizers and tutors' performance*

Parameters	% of satisfaction	Category
<b>Organizers</b>		
Program information clarity	89.9%	Very good
Permission easiness	92.9%	Excellence
LMS access	86.2%	Very good
Relevancy of training materials	90.0%	Excellence
Video and audio clarity	85.0%	Very good
Training materials quality	88.3%	Very good
Applicability	85.7%	Very good
<b>Average</b>	<b>88.3%</b>	<b>Very good</b>
<b>Tutors</b>		
Material mastery	93.8%	Excellence
Learning process facilitation	94.1%	Excellence
Learning process monitoring	93.3%	Excellence
Motivation	94.6%	Excellence
Material delivery clarity	93.0%	Excellence
Feedback	91.8%	Excellence
Communication skill	93.0%	Excellence

Providing solution	94.1%	Excellence
Response rate	93.2%	Excellence
Response clarity	93.6%	Excellence
Providing lesson learn	94.1%	Excellence
<b>Average</b>	<b>93.6%</b>	<b>Excellence</b>

### Conclusion

The E-training method could increase the attitude and skill of Indonesian vocational high school teachers. Our result revealed that the attitude and skill of all the teachers increased significantly after participating in e-training. However, the increment was different between the major of teachers, where a major that needs a direct practical skill may have a less obvious effect. The organizers' and tutors' satisfaction levels were classified as very good and excellent. This study implies that a well-organized e-training could be the alternative in providing skill up-date for vocational high school teachers.

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