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Training on Electrical Welding Engineering for Airport Environment Force III

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Abstract

The training aims to enable participants to equip participants with trained, skilled, and tested abilities in electric welding. The training is designed to accommodate a total of 42 lesson hours and will take place over five days from March 13 to March 17, 2023. The face-to-face learning method is employed at Atung Bungsu Airport in Pagar Alam to facilitate practical activities using actual equipment in the field. The theoretical learning sessions are conducted on-site, allowing participants and instructors to remain at the location throughout the training. Face-to-face interactions, discussions, and questions are facilitated during the scheduled sessions, while additional communication is maintained through a WhatsApp Group. The practical session takes place after participants have completed the theory session and passed the theory exam. It is held in the Atung Bungsu Airport environment, where participants actively engage in hands-on activities. Strict adherence to health protocols is maintained throughout the learning activities. Assessment of learning outcomes is based on participants' attendance records and comprehensive exam results, ensuring a comprehensive evaluation of their progress and performance.

Keywords: *Airport, Electrical Welding Engineering, Training*

A. Introduction

To measure management performance, good airport management should be based on two main conceptions.: (1) Effective, i.e. the ability to choose the right objectives or equipment to achieve the goals set. (2) Efficient, i.e. the ability to complete the work correctly, obtain outputs (yield, productivity, performance) higher than the inputs (labour, materials, money, machinery, and time) used to minimize the cost of using resources to achieve predetermined outputs, or maximize outputs with a limited number of inputs [1]. In airport management, skilled workers are needed, especially in their field of work, so it is necessary to develop labour skills. Training activities can direct the implementation of workforce development to enhance work competence, quality, and work ethic [2]–[4]. Education defines training as a means of coaching and career development, as well as efforts to improve the quality of human resources to meet job needs [5]. Training takes place relatively quickly and with methods that prioritize practice over

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theory [6]. Training is a planned and systematic activity that increases the skills, knowledge and competencies necessary to perform the job effectively [7], [8]. One of the objectives of the training activities is for participants to apply the skills or knowledge they have acquired during the training to their work tasks [9]–[11]. One of the important things to be trained in the airport environment is about search technology. Welding technology is an applied technology, where this technology can be applied and applied in productionincluding in the world of aviation [12]. One type of welding technology is the use of electric welding.

Electric arc welding or commonly called electric welding includes a process of connecting metals using electric power as a heat source [13], [14]. This welding is efficient and practical because only simple tools and rods are needed, so this type of welding is very suitable for the home industry, for making fences or in industrial environments. In general, welds are used as metal joins and to maintain construction machinery [15], [16]. According to Suryanto et al., welded joints generally have several advantages, namely lightweight construction, can withstand high strength, easy to implement, and quite economical [17]. The Electrical Welding Engineering training conducted this time is to provide knowledge about Basic Electricity, Basic Knowledge of Metals, Basic Techniques of Electric Welding and Basic Techniques of Bench Work. This activity is carried out legally as the Decree of the Director of the Palembang Aviation Polytechnic Number: KP-Poltekbang.Plg 74 of 2023, dated March 13, 2023, concerning the Implementation of Education and Training for Electrical Welding Engineering for the Airport

B. Research Methods

Training on Electrical Welding Engineering for Airport Environment Batch III will be held for 5 days starting on March 13, 2023 until March 17, 2023 with a total of 42 hours of lessons andeach subject lasting 45 minutes. More details can be seen in the following table.

Table 1. Training Curriculum

No.	Subject	Code	Number of Lesson Hours	
			Theory	Practice
1	National Insight	WK	2	6
2	Flight Safety	KP	2	0
3	Occupational Health and Safety	K3	2	0
4	Basic Knowledge of Electricity	PDK	1	0
5	Basic Knowledge of Metals	PDL	1	0
6	Basic Electrical Welding Techniques	TDL	0	22
7	Basic Bench Work Techniques	TDKB	0	6
	Total		**8**	**34**
	Total Class Hours		**42 JP**	

The prerequisites for trainees are:

1. Personnel who carry out duties and functions in the field of transportation, both State Civil Apparatus (A.S.N.) and Non-ASN or personnel who already have the basics of character and can serve in services in the area of transportation;
2. An authorized official should provide a recommendation letter, while the requirements for training instructors include the following:
   a. Having an educational and training background in their field;
   b. Decree of determination of teaching staff from academic and training institutions

The learning method used for the Third Force Airport Environmental Electrical Welding Engineering Training is the face-to-face method at Atung Bungsu Airport, Pagar Alam. This is done in order to accommodate practical activities that must use real equipment in the field.

For the implementation of theoretical learning sessions, participants and instructors remain at the location of Atung Bungsu Airport. Teaching and learning sessions are carried out face-to-face, discussions and questions and answers outside the daily schedule are accommodated through WhatsApp Group.

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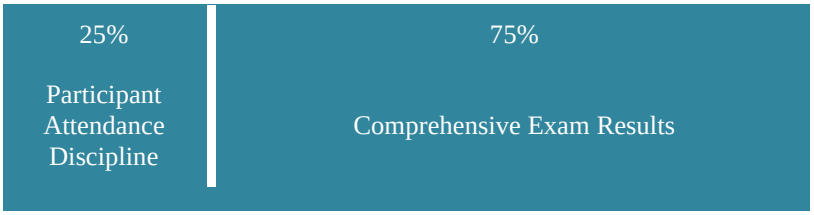
The practical session was held after all participants completed the theory session and passed the theory exam. The practical session was held in the Atung Bungsu Airport environment, Pagar Alam, where the participants worked. Health Protocols are still applied to each session of learning activities.

The assessment of learning outcomes is based on the assessment of participant attendance discipline and comprehensive exam results:



Palembang Aviation Polytechnic also conducts evaluations related to the quality of training implementation using user satisfaction scale assessments. The scale used in the evaluation starts from the smallest, namely Strongly Disagree with the weight of value 1, Disagree with the weight of value 2, Neutral with the weight of value 3, Agree with the weight of value 4, and Strongly Agree with the weight of value 5.

To draw conclusions related to the quality of training implementation based on the results of the assessment of trainees follow the following guidelines.

Table 2. Evaluation Results Related to Training Implementation Assessment

Bad		Not Good		Enough		Good		Excellent	
1.00	1.79	1.80	2.59	2.60	3.39	3.40	4.19	4.20	5.00

C. Result and Discussion

Training on Electrical Welding Engineering for Airport Environment Batch III is divided into 2 sessions, namely theoretical learning sessions and practical sessions. For the implementation of theoretical learning sessions, it is carried out face-to-face, while discussions and questions and answers outside the daily schedule are accommodated through WhatsApp Group. After all participants completed the theoretical session and passed the theoretical exam, then practice was carried out in the Atung Bungsu Airport environment, Pagar Alam, where the participants worked.

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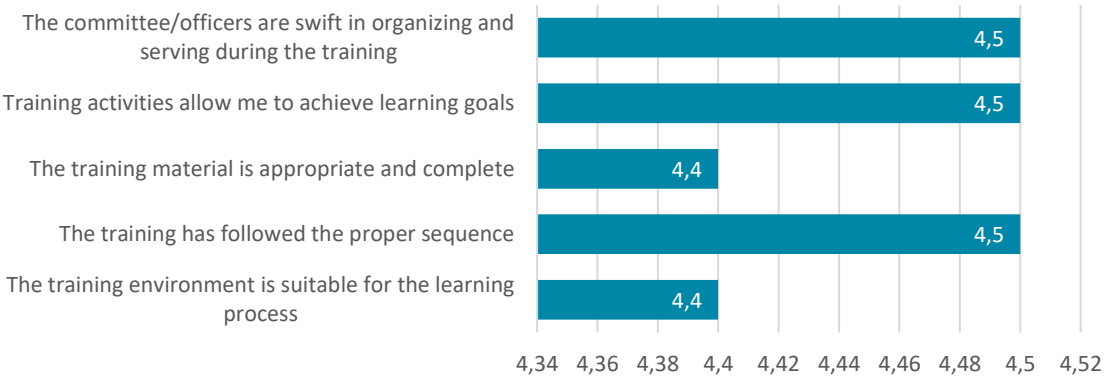
Figure 1. Practice Session Documentation

After the training activities, an evaluation was carried out. From the results of the evaluation that has been filled out by the participants of the Airport Environmental Electrical Welding Engineering Training, the conclusions of the assessment of the implementation of the training are as follows:



From the evaluation results related to the assessment of training implementation, the average value of the entire training implementation was **4.50 (Very Good).** The training aspect has followed the appropriate sequence, the training activities allowed me to achieve learning objectives and the Committee / Officer swift in the implementation and service during the training got the highest score of (4.50). Palembang Poltekbang is expected to maintain service quality in other aspects.

Palembang Aviation Polytechnic has also conducted an evaluation related to the content of the material. The scale used in the evaluation starts from the smallest, namely Strongly Disagree with the weight of value 1, Disagree with the weight of value 2, Neutral with the weight of value 3, Agree with the weight of value 4, and Strongly Agree with the weight of value 5. The assessment of this aspect includes several factors and with the following response results:

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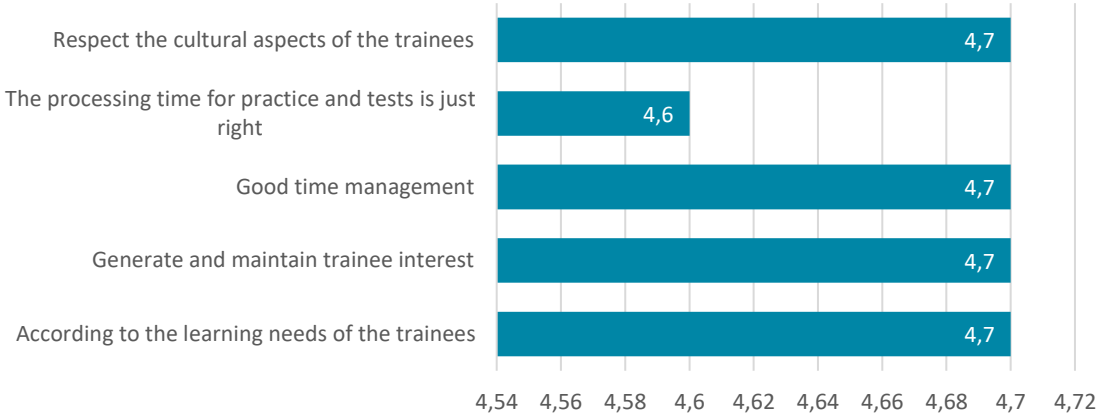
From the evaluation results related to the assessment of the presentation of training material, the average value of the overall training implementation was **4.40 (Very Good).** The written instructions for practice are self-explanatory and the content supports successful completion of the test, earning the highest score of 4.50 (Excellent). Written instruction for the test is self-explanatory and the material visually describes the learning objectives can be a focus for future development.

Palembang Aviation Polytechnic has also conducted an evaluation related to the quality of presentation of training materials by instructors using user satisfaction scale assessments. The scale used in the evaluation is Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. There are 3 aspects assessed, namely class management, material delivery, and material mastery.

The results of the class management assessment from Instructor Asep M. Soleh are as follows:



For the conclusion of the assessment of Classroom Management aspects, Instructor Asep M. Sholeh received an average response of 4.70 (Very Good) from all participants.

The results of the assessment of material delivery from Instructor Asep M. Sholeh are as follows:

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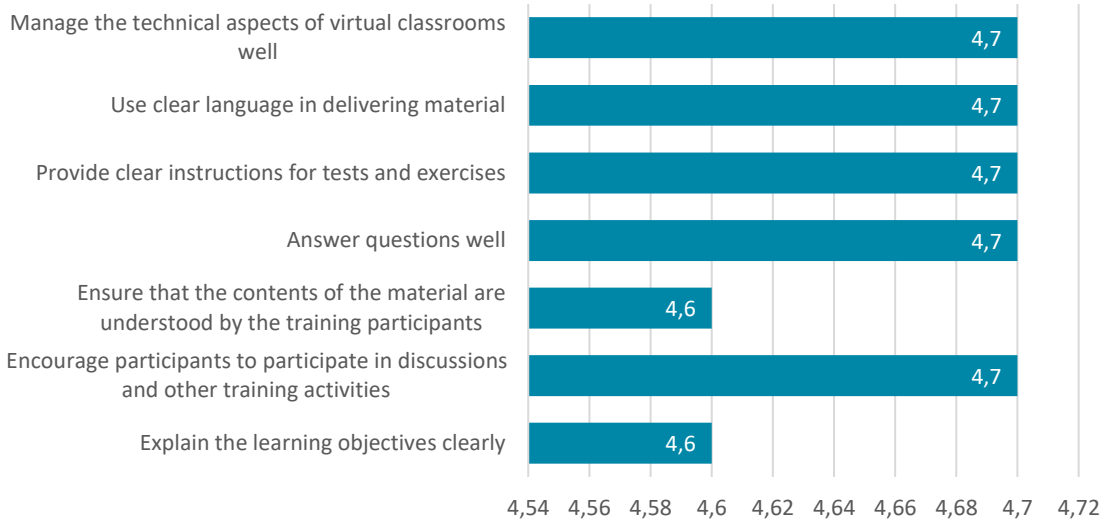
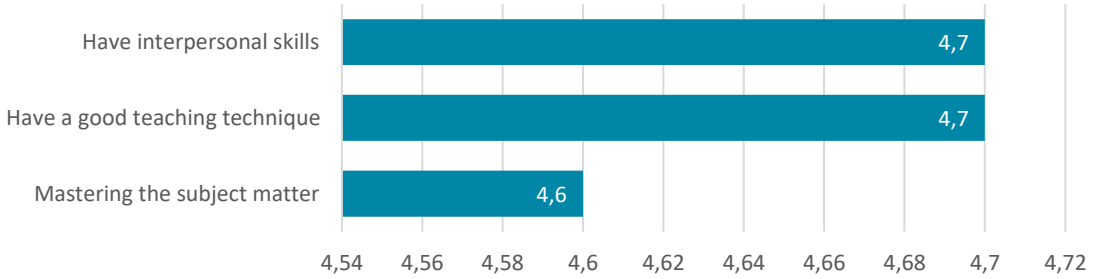


For the assessment aspect of Material Delivery, from all participants who responded, Instructor Asep M. Sholeh received a score of 4.70 (Very Good).

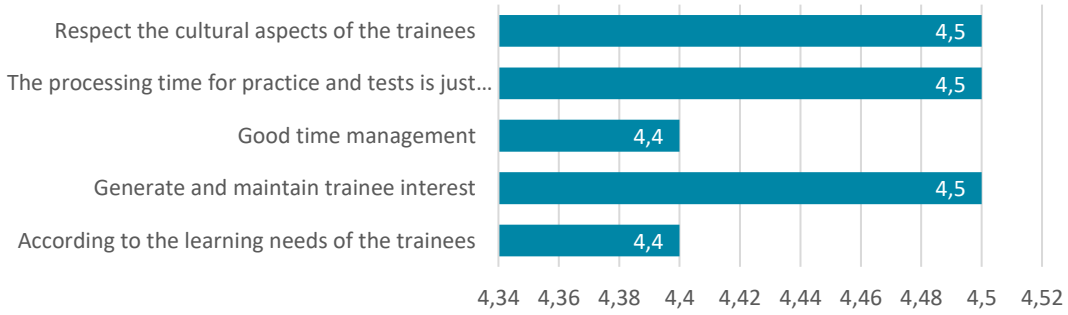
The results of the material mastery assessment from Instructor Asep M. Sholeh are as follows:



For the assessment of material mastery aspects, from all participants who responded, Instructor Asep M. Sholeh received a response with an average score of 4.70 (Very Good).

Overall, the results of the evaluation assessment of Asep M Soleh Instructor obtained results with an average score of **4.70 (Very Good).** Therefore, it is hoped that Instructor Asep M. Sholeh can continue to maintain his performance in teaching.

The results of the class management assessment from JUANAS ORTA Instructors are as follows:



For the conclusion of the assessment of the Classroom Management aspect, Instructor Juanas Orta received an average response of 4.40 (Very Good) from all participants.

The results of the assessment of material delivery from Instructor Juanas Orta are as follows:

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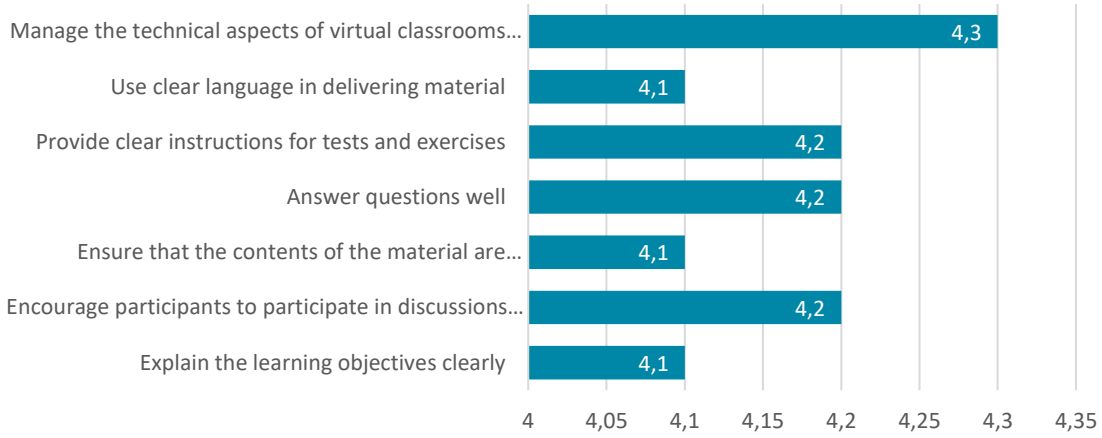
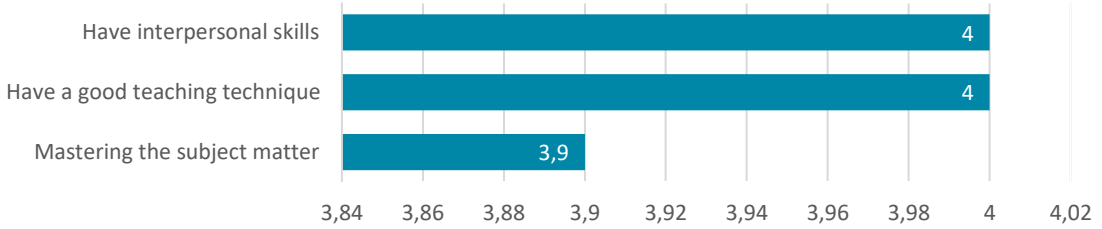


For the assessment aspect of Material Delivery, from all participants who responded, Instructor Juanas Orta received a score of 4.10 (Very Good).

The results of the material mastery assessment from Instructor Juanas Orta are as follows:



For the assessment of material mastery aspects, from all participants who responded, Instructor Juanas Orta received a response with an average score of 4.00 (Very Good).

Overall, the results of the evaluation assessment of JUANAS ORTA Instructors obtained results with an average score of **4.20 (Very Good).** Therefore, it is hoped that Instructor Juanas Orta can continue to maintain his performance in teaching.

The results of the class management assessment from EET Instructor FERDIANSYAH are as follows:

For the conclusion of the assessment of Classroom Management aspects, Instructor Eet Ferdiansyah received an average response of 4.40 (Very Good) from all participants.

The results of the assessment of material delivery from Instructor Eet Ferdiansyah are as follows:

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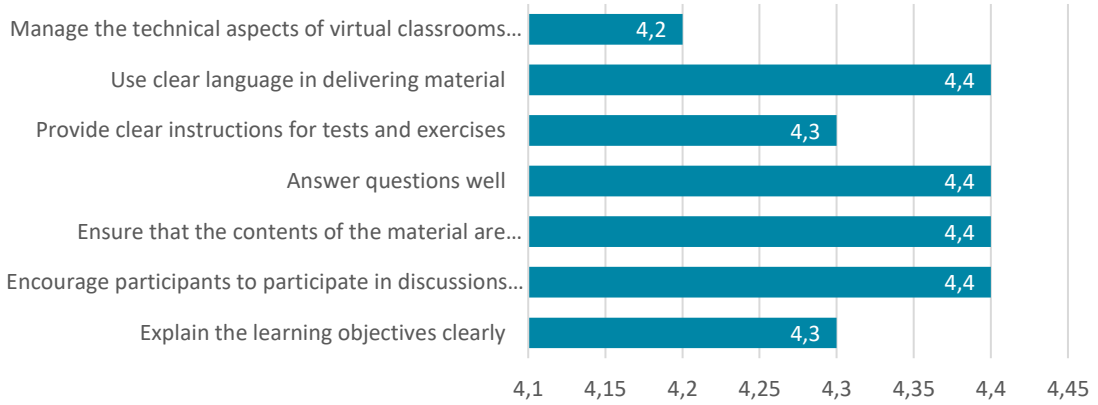
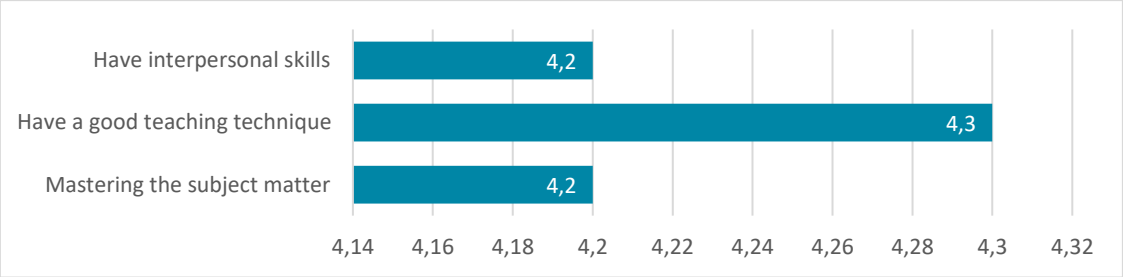


For the assessment aspect of Material Delivery, from all participants who responded, Instructor Eet Ferdiansyah received a score of 4.30 (Very Good).

The results of the material mastery assessment from Instructor Eet Ferdiansyah are as follows:



For the assessment of material mastery aspects, from all participants who responded, Instructor Eet Ferdiansyah received a response with an average score of 4.20 (Very Good).

Overall, the results of the evaluation assessment of EET FERDIANSYAH Instructors obtained results with an average score of **4.30 (Very Good).** Therefore, it is hoped that Instructor Eet Ferdiansyah can continue to maintain his performance in teaching.

D. Conclusion

Training activities for Electrical Welding Engineering for Airport Environment Force III have been carried out at Atung Bungsu Airport on March 13-17, 2023. Based on the results of the evaluation, it was concluded that the quality of the training was very good. It is hoped that in the following years this activity can be held again at Atung Bungsu Airport or at other airports with a longer period of time so as to allow participants Training can be more skilled in using electric welding.

E. Acknowledgement

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