

Welding Training for Youth Organization in Dayeuh Village

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ABSTRACT

During quite a high job competition, each individual must improve their abilities in various fields of science and skills. Development of human resources to improve product quality and selling value. Human Resources (HR) that are not supported by soft skills and hard skills will reduce the ability to work, of course, needed by young people with a higher desire to improve hard skills and soft skills. This welding training, one of the STTMC programs aimed at improving the quality of young people in STTMC and surrounding areas. Whereas in the industrial environment increasing human resources to compete in labor competition. In building good relationships between universities and communities around the industry. Also, we can equip young people with the skills needed in the fields of welding, entrepreneurship, industry, and the world of projects. Where the majority of the world of work requires smart people and have the ability in the field of hard skills. Through this training, it can help the difficulties of young people in the field of welding in the industrial world and efforts to improve the ability of the field of welding skills by collaboration between STTMC and PT. CG Power Indonesia.

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1. Introduction

At this time the quality of human resources must be improved [1], especially in the field of education. During a free market that tends to create competition for each individual [2]. To increase life skills [3] Human Resources (HR) to compete with foreign HR in the world of work [4], every individual must have hard skills and soft skills [5] which support in job creation [6], needed the ability to be able to master the welding method that is increasingly growing and increasingly sophisticated [7]. Various jobs carried out in the industry, automotive [9], airplane [10], ship [11] mines, onshore, or offshore often use welding tools [12]. Various types, capacities [13].

The role of the industrial world to develop the world of education is needed [14] [15][15][17], so that the world of education makes room for managing quality human resources [16]. Evidence of activities in education from PT. CG Power Systems Indonesia, represented by several representatives visited the Muhammadiyah Cileungsi College of Technology (STTMC) to provide grant assistance in the form of welding machine tools and



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equipment. The grant will be used for community service conducted by STTMC. In Figure 1, the management visit from PT. CG Power Systems Indonesia in the handover of welding equipment.

With primary and secondary needs of the community required to work, in the implementation the ability to do work is always constrained by education and job skills. If education becomes an obstacle in carrying out the work, HR must take formal and non-formal education.

This hard skill training is to support the improvement of the ability of human resources to work [17][18] in the welding field. The implementation of community service is part of the College Dharma Chess [19][20][21][22].

Higher Education to serve the community to be able to provide learning and improve the standard of living of surrounding communities [23][24][25][26][27][19] Sekolah Tinggi Teknologi Muhammadiyah Cileungsi.

Representatives from PT. CG Power Systems Indonesia symbolically handed the welding equipment to the Chairperson of STTMC (Ir. Firmansyah Azharul, MT) in Sekolah Tinggi Teknologi Muhammadiyah Cileungsi.



Figure 1. Handover of welding equipment in terms of community service



Figure 2. Implementation of PkM in Dayeuh Village, Cileungsi District

Welding work involves exposure to heat, arc flares, and air pollution by welding fumes [28], both originating from the burning of the coating and the protected gas [8] [29], and if inhaled by workers will cause breathing problems [8]. Furthermore welding work also creates the risk of fire or explosion occurring [30], as well as systematic health problems and following international rules and applicable regulations.

Collaboration between the world of education and companies to improve non-formal education in improving the ability and skills in the field of welding.

The expected outcome of this service is to apply the creativity of citizens, especially youth groups to develop individual skills to improve community welfare. And for lecturers to develop lecture material in the field of academics to increase lecturers to publish textbooks to support the field of education.

Industrial support in community service is providing material and non-material assistance so that the implementation of community service can go according to plan.

2. Methods

Based on the above, a community service effort is needed to equip skills (hard skills) in the field of training, to prepare skills in job competition "Welding Training Activities for Youth Taruna Dayeuh Village". The skills possessed by the participants will later be able to increase the ability and knowledge of the participants themselves. The method of conducting welding training for community service is as follows:

2.1 Visit to the Environment.

Implementation of Community Service conducted by STTMC visited the environment around the STTMC campus and around the district district function to obtain data in determining the mapping of activities.

In choosing the technique, it is necessary to pay attention to the level of compliance with the social reality of the object to be carried out community service both primary and secondary, including:

1. Observation (direct observation in the field), carried out by conducting a questionnaire on the understanding of welding.
2. Age grouping to understanding welding
3. Trial of case studies by providing welding training
4. Documentation and depiction to see the environmental conditions in the District of Cileungsi.

Implementation of Welding Training for Dayeuh Village office hall, Cileungsi District.

3. Results and Discussion

Before participants participate in welding practices, participants are first given theoretical material to understand work risks when using electric welding tools. Figure 1 presenters give an explanation of occupational safety and health in the implementation of welding training practices, so that participants understand the importance of safety in work.

Theoretically in this training to introduce participants to the parts of the welding machine and how to use welding equipment, which is explained in Figure 5. The speaker explains in detail about the welding methods and welding aids used. This basic understanding must be understood by all participants, so that they understand correctly how to use it and not just work. Enthusiastically the participants paid attention to the material presented by the speaker.





Figure 3. The speaker presents the welding method to the trainees

Representatives from STTMC (right) hand over welding machine equipment to representatives from Dayeuh Village, Cileungsi-Bogor (left).



Figure 4. Transfer of welding equipment to village officials

In picture 5 all participants took a photo together before conducting the welding training, accompanied by the Village apparatus and from the STTMC lecturer.



Figure 5. Training participants



The welding instructor gives an example of how to use welding equipment before operating the welding machine, this demonstration so that participants fully understand how to install welding equipment.



Figure 6. Installation of positive and negative welding cables

The use of welding wire for welding has several sizes, in this explanation the participants can understand the size of the welding wire according to the size of the electric amperage and the object to be welded which is described.

In Figure 9 it is explained how to use safety equipment that must be used. The use of gloves, aprons, or hand protectors to protect hands from sparks when welding.



Figure 7. Use of PPE

4. Conclusion

Community service activities for welding training were carried out well and attended by representatives of each youth group invited. In this welding training involving Corporate Social Responsibility (CSR) companies from PT. CG Power Systems Indonesia for the procurement of 900-1100 Watt Power welding equipment and equipment which are affordable and easy to use. It takes more time to provide welding training, so that training participants get maximum results and are proficient in welding and are expected to be able to open entrepreneurs from the results of welding training. The role of universities in collaboration with CSR-PT. CG Power provides an opportunity to improve the knowledge and skills of Dayeuh Village youth cadets. This training has a positive impact in reducing youth unemployment and preparing for self-employment.



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