

# **IMPLEMENTATION OF PROJECT BASE LEARNING USING 3D PRINTING TECHNOLOGY IN TECHNICAL DRAWING LEARNING AT MUHAMMADIYAH VOCATIONAL SCHOOL PRAMBANAN**

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## **ABSTRACT**

This activity aims to carry out training on the Implementation of Project Base Learning Using 3D Printing Technology in Learning Technical Drawing in schools by knowing the competencies needed by teachers and students of the Prambanan Muhammadiyah Vocational School to support the needs in the era of the Industrial Revolution 4.0 related to additive manufacturing technology, the supporting facilities needed and the results of training and mentoring. This PPM activity is designed in the form of training specifically aimed at teachers and students of the Prambanan Muhammadiyah Vocational School. The impact of this training is that it is hoped that the training participants will have competencies related to the use of additive manufacturing (3D Printing) technology starting from the design process to printing using a 3D printer machine. The methods for carrying out this activity are lectures, focused discussions, and practice or tutorials. The training was carried out at the Multimedia Laboratory of SMKS Muhammadiyah Prambanan. Activities are carried out with the following material stages; Introduction to 3-dimensional design and 3-dimensional printing technology, 3-dimensional design process using CAD software, converting 3-dimensional designs into files ready for use in 3-dimensional printing, procedures for using 3D printer machines and practice of printing 3-dimensional designs into 3-dimensional objects using 3D machines Printer and Assistance for those who need consultation. The training results shown from the PPM evaluation questionnaire data show that the average score for all aspects was 3.43 or 85.83% in the Very Good category for implementing this activity.

*Kata Kunci: Training, 3D Printing Technology, Technical Drawing Course*