

CHEMISTRY LEARNING BASED ON STEM (SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS) FOR VOCATIONAL SCHOOL CHEMISTRY TEACHERS IN YOGYAKARTA

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ABSTRACT

This Community Service activity aims to provide insight to Vocational High School (SMK) chemistry teachers about the concepts and applications of chemistry learning based on Science, Technology, Engineering, and Mathematics (STEM) and to motivate SMK chemistry teachers in developing STEM-based learning through the training activity. This PPM activity is training in nature and is carried out using the methods of discussions, exercises, mentoring, assignments, and questionnaires. Through this activity, participants received material on the basic concepts of STEM, project-based learning for chemistry subject in SMK according to STEM, evaluation of STEM learning, examples of implementing STEM for student analytical thinking, and develop students' critical thinking instruments. The target audience who participated in this activity were a total of 16 vocational chemistry teachers out of the 30 targeted, who came from public and private schools in DIY. PPM activities for SMK chemistry teachers have been carried out well because they are supported by several factors, including positive support from Chemistry MGMP at D.I. Yogyakarta, so that PPM participants are not only from the city of Yogyakarta, but reach all Vocational Schools in 4 other districts in Yogyakarta, mastery of information and communication technology from PPM Vocational High School Chemistry teachers, and facilitation from PPM organizers, as well as enthusiasm and initial knowledge of Chemistry teachers of SMK that participated in PPM on STEM are one of the factors that support the delivery of material that can be carried out effectively and efficiently so that the entire series of PPM activities are carried out according to the planned activity schedule. After this PPM activity was completed, the SMK Chemistry Teachers' insights about the knowledge of STEM-based chemistry learning concepts had developed. PPM Vocational School Chemistry teachers have been motivated to design chemistry learning activities in STEM-based Vocational High Schools which is shown by the enthusiasm of the teacher to discuss how to design learning activity plans in accordance with the vocational chemistry expertise field taught through the final training assignment.

Kata Kunci: *STEM, Vocational chemistry*