

TRAINING IN USING SCIENTIFIC APPROACH WITH REAL OBJECTS AND ICT FOR SENIOR HIGH SCHOOL BIOLOGY TEACHERS

by Slamet Suyanto, Suratsih, Ema Aprilisa

ABSTRACT

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The curriculum of 2013 uses the scientific approach with 5Ms in teaching and learning process. Many teachers face difficulties in implementing the scientific approach with 5Ms. Learning biology uses real objects where students can observe and find out the characteristics of the objects such as plants, animals, fungi, and bacteria. Many teachers tend to use picture presentation using PowerPoint. As a result students have difficulties in the process of "Mengamati" (Observing). In further impacts, students also have difficulties in "Mencoba" dan "Menalar" (experimenting and reasoning). In the reasoning process students need references from many resources, including ICT. This training trains the teachers to use both real objects and ICT in teaching biology. The objective of this training is to make the biology teachers

This activity was a community service run for senior high school teachers in Bantul district. As many as 20 teachers were involved in this training. The training consisted of two main activities: theoretical review of scientific approach and e-learning using ICT. The teachers, then, develop a lesson plan by using the scientific approach, real objects, and ICT. The teachers then try to do peer teaching by using the lesson plan. They revised the lesson plan according to their peer teaching result. The teachers then apply the lesson plan in school for 1 semester. The training was in the laboratory of Biology department at 27 Juli 2019. The results indicated that 80% of the teachers has already understand the use of scientific approach 5Ms by using real objects and ICT. They found the appropriate web sites to learn biology. They can develop lesson plan integrating the scientific approach 5Ms by using real objects and ICT. The teacher can practice teaching with peer using the developed lesson plan.

Kata Kunci: *Kata kunci: biologi, real objek, realia, saintifik, 5M, ICT*