

TRAINING ON THE IMPLEMENTATION OF THE SCIENTIFIC APPROACH BY USING REAL OBJECTS FOR HIGH SCHOOL BIOLOGY TEACHERS

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ABSTRACT

The new Curriculum of 2013 requires teachers to use scientific approach of 5Ms. The approach includes five steps of the instruction: (1) observing, (2) asking questions, (3) experimenting, (4) reasoning, and (5) communicating the results. In reality, teachers mostly do not use biology objects such as plants, animals, protists, fungi, and bacteria. Instead, teachers dominantly use Powerpoint to present pictures or objects. As a result, the students do not really do observations and manipulate the objects of biology. The observing activity does not run well. This condition leads to the weakness of the second step, that is asking questions. When there is no interesting phenomena from the observation, there is no question likely asked by the students. Therefore, the entire learning process is not interesting and challenging. This training guides the teachers to practicing using real objects and leads students' observation.

This training is followed by 15 biology teachers from 13 high schools in Bantul District. The training has two main activities, workshop of developing learning materials and practicing in their school. First they learn how to use real objects. Then, they develop lesson plan, media, and student worksheets, and assessment instrument. Then, they practice implementing it in school guided by the lecturers. The training is located in the biology laboratory at 27th of July, 2018.

The results indicate that (1) 80% of the teachers understand very well in using real objects to teaching biology, (2) the teachers are capable of using the scientific approach with real objects in the classroom, (3) students get good achievement in their learning, compare to the control groups. Therefore, it is suggested that real objects of biology is necessary for teaching and learning.

Kata Kunci: *biology, real object, media, realia, scientific, 5M*