

TITLE: DISINFECTANT EFFICIENCY ASSAY IN BIOLOGY CLASSES TO IMPROVE HIGH SCHOOL MICROBIOLOGY KNOWLEDGE.

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ABSTRACT:

Microbiology classes at high school is on majority only explanations, putting students in a passive role and making learning much more rote than meaningful, making difficult the microbiology contextualization in student's life. We develop an activity of disinfectant efficiency assay and propose to science teachers from a Public High School in São Paulo-SP with the aim to show to students that is possible to apply microbiology in their routine. We apply that during sciences classes for three different classes at second high school year. The activity consists in request to students bring the disinfectant used in their home and use it to disinfect a demarcated area at school, collecting with a swab and spreading in nutrient agar, before and after disinfection. Agar plates were incubated at room temperature and in next class, students saw the plates and made a report where they described the assay and discuss the results. To evaluate students learning with the activity, we apply two surveys. The first one had the aim to assess previous knowledge about disinfectant action to control microbial grow, for that we ask them "What is a disinfectant? What is it for?". Students filled 88 surveys, being 42% (37) students correctly related disinfectant with microbial control. After students saw the results, we apply the second survey, asking them if the results were in agreement with they expected. Students filled 69 surveys, being 58% (40) students related experiments results with antimicrobial disinfectant action. We compare the two answers for each student and saw that 37 students maintain satisfactory or unsatisfactory answers, 10 students were satisfactory at first survey and unsatisfactory at second, and 22 students were unsatisfactory at first survey and satisfactory at second, showing a knowledge improve. During the activity, students show an interest about the experiment and about general microbiology, making possible to teacher discuss about some others microbiology topics as macromorphology, metabolism, microbiota, and others. Students also write in surveys that they want more sciences practical activities. We conclude that the activity shows great results, given to students an improve in microbiology knowledge and interest in this field.

Keywords: Microbiology Education, Active Learning, Laboratory Classes.