

Microbiology practices in high school: a bond between School and University

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Microbiology is an area that encompasses organisms of microscopic scale. In general, there is a difficulty of the students in the perception of organisms that are in this scale. This difficulty is generated by the impossibility of visualizing the organisms without the aid of specialized equipment, such as the microscope. Even in schools equipped with microscopes, their use tends to be limited by the scarcity of equipment and/or unprepared teachers in their handling. O Colégio de Aplicação (COLUNI) is a public high school that is part of the UFV. This school has a practical classes laboratory, but equipped with few microscopes for the great demand of students. On the other hand, the Department of Microbiology of the UFV (DMB-UFV) has a practical classes laboratory equipped and a technical team specialized in the preparation and assistance of practical classes. In order to strengthen the teaching in the Microbiology area for COLUNI high school students, this work had the objective of conducting a practical class through a partnership between DMB-UFV and COLUNI. Graduate students in Agricultural Microbiology of the UFV (PPGMA) prepared practical material and taught classes for 160 students in the second year of high school in 2016 and 2017. For the evaluation of the classes was given the Likert questionnaire with 5 scales of alternatives (very good, good, indifferent, bad and very bad). In 2016, bacteria and fungi were visualized in a solid culture medium and in the microscope, with a later discussion of the morphology and importance of these microorganisms. In 2017, the class was Gram-stained, in which students were able to handle microbiology equipment, prepare slides, and discuss bacterial morphology and Gram-negative and Gram-positive bacteria classification. A total of 94.6% (2016) and 95.0% (2017) of the students classified as very good and good the performance of the class outside the conventional school environment. In relation to access to microscopes, 99.3% (2016) and 98.6% (2017) of the students classified as very good and good. Regarding student learning, 94.6% (2016) and 87.1% (2017) classified as very good and good. The results suggest that the partnership COLUNI and DMB-UFV should be encouraged and improved to contribute even more to student learning in the microbiology area and also to the community's approach to the University. This work opens the door for the development of an extension project between the schools of Viçosa and the DMB-UFV.

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