

**TITLE:** THE TEACHING OF MICROBIOLOGY THROUGH EXPERIMENTS: AN APPROACHING BETWEEN PRACTICE AND THEORY

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**ABSTRACT:**

Teaching microbiology is a major challenge for most Brazilian schools, especially for public ones, which lack infrastructure and learning tools. This difficulty exists because of the complexity involved in teaching about beings that can not be seen with the naked eye, which can make the subject abstract and uninteresting for elementary and high school students. It is in this scenario that the "Mundo Microbiano" project arises and aims to arouse the interest and curiosity of elementary and high school students from public schools in the city of Arapiraca, relating the different aspects of microbiology to human life. In December 2018, an action was taken at the Escola Estadual Aurino Maciel, located in the city of Arapiraca - Alagoas, where two classes of 7th and 8th years of elementary school were addressed. The action took place in two days, and the first visit was titled "Scientist's Day", where students performed experiments to prove that microorganisms exist and are everywhere. The detection of microorganisms in different school environments was carried out using dishes from the Mueller's growth medium previously prepared by UFAL biology and medical students. Initially, the students identified the plates with their names and date, then plates were opened at the sites chosen by the classes, the first plate being closed 10 minutes after its opening, the second plate closed after 30 minutes and the third one closed after 60 minutes, in addition some plates were stamped with the hands of some students, later the plates were taken to UFAL where they were incubated at 30 ° C. The following week, during the return to school to present and discuss the results with the students and in the end of the activity, it was possible to note that the insertion of practical activities made the teaching more dynamic, palpable and close to the reality of the students. There was microbial growth on the boards of several school settings, such as classrooms, library, principal's room, and restrooms, as well as student-stamped plates without previous sanitization. The students became more participative, raising questions and presenting their conclusions about the results, importance of hand hygiene and the presence of microorganisms in the environment. It is concluded that the practical activity proved to be an excellent teaching tool, capable of enriching and complementing the theoretical classes, besides strengthening the process of teaching and learning.

**Keywords:** Experimental activities, Microbiology education, Environmental microbiology

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