

TITLE: TEACHING OF OPTICAL MICROSCOPY FOR STUDENTS OF THE FIRST SEMESTER OF THE COURSE OF BIOLOGICAL SCIENCES

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ABSTRACT:

Due to the lack or little contact with laboratory equipment by a large part of the first semester students of the Biological Sciences course, a minicourse was proposed on the use of the optical microscope for them. The objective of this work was to qualify students to handle the optical microscope, aiming to rescue procedures to improve the understanding of the abstract concepts in biology. The present work consisted of demonstrating results obtained from an intervention (in the form of a course) applied by the curricular component of Supervised Internship II, of the undergraduate course in Biological Sciences, from the school year of 2018.2 at the Universidade do Estado da Bahia (UNEB), Campus X, Teixeira de Freitas-BA. Fourteen students from the first period were enrolled in the proposed course. The methodology used was based on procedural and qualitative aspects, with a total of ten hours, divided into five stages of two hours per day. The steps were: I) application of a previous knowledge questionnaire, presentation and identification of the structure and functionality of the optical microscope; II) handling of the equipment with the visualization of several slides with biological material and schematic drawings of plant and fungal cells; III) Animal tissue; IV) bacteria and protozoa; and V) procedural evaluation and self-written evaluation. The steps of guidelines for the correct use of the optical microscope, the visualization (increase, focus, light, etc.); characterization of biological materials (schematic drawings); and assessments were all fulfilled. Steady participation in meetings was noticeable, with significant results. In the previous knowledge questionnaire, 78.5% of the students stated that they did not have contact with microscopes before and also had no science laboratory in the schools they studied; 42.8% thought it was difficult to handle the microscope; 85.7% already believed in the importance of the equipment for scientific research. In the self-assessment, the students described positive aspects of what they learned. Finally, in the procedural evaluation, 98% of students knew how to correctly perform, in practice, everything that was oriented on the proper use of the apparatus. Therefore, it is of paramount importance that students, from the first semester on, learn how to use the optical microscope in way that, throughout the course, they obtain good performances in the practical classes and future scientific research.

Keywords: Microbiology; Teaching; Optical Microscopy.