A DIDATIC EXPERIENCE IN BIOCHEMISTRY LABWORKS: THEORETICAL *VERSUS* EXPERIMENTAL MODEL

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Biochemistry labworks are fundamental to both the instrumentation and for the establishment of important concepts. The labworks of Basic Biochemistry (BB280) for Biology students at UNICAMP have gone through several improvements. The labworks are now structured from simple activities to more complex ones, and aimed to the student's autonomy development in the experiments planning and execution over the teaching semester. The first practical activity is on buffer systems, and it is based on the confrontation of a theoretical model with the lab experiments results. First of all, the students simulate a Titration in a computational environment, where students lay a theoretical model from their knowledge. In the theoretical model the buffer parameters are set according to the teacher instructions, and the experiment conditions are also set and tested. The simulation results are used for planning the experiment and to compare with the experimental ones. After having the simulations concluded and having the experiment planned the students perform the in lab Titration with the parameters established in the simulation. The results obtained by students are presented in a report. We analyzed the reports from 76 BB280's students in 2007(night class and day class). The students identified as the main causes of the discrepancy between theoretical and experimental data: 1) experimental errors, related to the lack of technical skill 2) limitation of equipment used 3) unexpected behavior of the substances used. In addition to the theoretical content related to labwork, the confrontation between the simulation and experimentation provided the students with ability to identify the main aspects of which can influence the quality of the data obtained.

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