CONSTRUCTION OF DIDACTIC MODEL OF MEMBRANE AND EXTRACELLULAR MATRIX TO FACILITATE THE TEACHING/LEARNING BY BIOLOGICAL SCIENCES STUDENTS AT UFRN

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ABSTRACT

This work was developed in the course of MOLECULAR DIVERSITY, required curricular component for the courses of Biological Sciences at UFRN. This course intends to encourage the study of the chemical structure and function of biomolecules using lectures and practical classes. Looking at the evaluations from previous semesters, it became evident that the subjects of the membrane and extracellular matrix were not being learned in a meaningful way. We also noticed lack of motivation from students due to difficulties in understanding molecules, weakening the teaching/learning process. Given this situation, our work aimed to encourage students to construct the constituent molecules of the membrane and extracellular matrix and assemble these structures, in order to understand molecular interactions, improve understanding of the subject and facilitate the learning process. This was accomplished through a monitoring project with the help of monitors. The proposed methodology consisted of separating the class into groups, where each would be responsible for making and exposing the other students to one of the molecules (Membrane Lipids, integrins, fibronectin, collagen, elastin, laminin, hyaluronic acid), and then discussing these molecules' structural characteristics and interactions. The students could use various types of materials like cardboard, colored pens and polystyrene. The molecules were presented to the class, and the groups had set up the membrane and the matrix indicating the location of molecules and their possible interactions. All groups created their molecules according to given specifications. They created didactic and colorful molecules and positively interacted with all other groups during the assembly of the membrane and extracellular matrix; they also discussed molecules functions and interactions. We noticed during presentations and evaluation a strong performance in the subjects in question, as well as the construction of a didactic model easily used to understand these subjects; we therefore postulate that the activity achieved its objectives.

Keywords: Biochemistry, didactic model, meaningful learning