BIOCHEMISTRY TEACHING WITH VIRTUAL DYNAMIC METABOLIC DIAGRAMS

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This work presents a game like educational software (courseware) to study metabolic pathways, called *Diagrama Metabólico Dinâmico Virtual* (DMDV) of Krebs' Cycle. The experience acquired teaching with the logical sequence tray games in the FFFCMPA's Biochemistry Course provides the beddings with the use of this model as education method. With DMDV, students can assembly the sequence of reactions that describe the desired metabolic pathway, create situational models which can guide his/her choices, reduce the subject complexity of the scheme in knowledge construction presenting in a graphical way the current interrelations. Biochemistry teachers can use the present software in classroom as well as distance classes. This product integrates multimedia resources extensively and is distributed in CD-ROM format. The virtual environment will make possible interaction of the student with the environment and with colleagues and teachers, through tools as chats and forum. Experience with the use of this method was carried through with two distinct groups of students. The first group was composed by 11 students, who were more familiar with the content and answered a specific questionnaire to previously evaluate the software. The second group was formed by 24 students regularly registered in the FFFCMPA's Biochemistry Course, who used the software as a study method. The first group considered DMDV of easy and pleasant navigation. The knowledge evaluation of the second group students was made by a written test and the analysis of three conceptual maps constructed by each one of them: one map before initiating the study with the DMDV, the second just after the study and the third one two months later. Every conceptual maps produced after DMDV method showed an expansion of valid concepts if compared with the first maps. Simple visual comparison of maps shows that new elements where added. All students who passed through the experiment reached a greater than five grade in the subject's written test. Current results suggest the validity of the DMDV related method to metabolic pathway study.