THE UTILIZING E-3D MODEL BIOLOGICAL SYSTEMS IN UNDERSTANDING CELLULAR DIVERSITY

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ABSTRACT

The study is focused on the utilization of e-3D instructional models of some Model Biological Systems in understanding cell diversity. The objectives were: (1) to enhance the academic achievements of the students in terms of: content knowledge, quality of artwork and communication skills. (2) to determine the students' feedback on the use of e-3D instructional models and (3) to determine what group of learners benefited most with the use of e-3D instructional models. The study covered the entire first semester of school year 2017-18. The participants included 30- college students enrolled in General Biology subject. It employed the descriptive-evaluative design with quantitative and qualitative methods of data collection. Data were computed, tabulated, analyzed and interpreted in the light of objectives. To see the significance of the results, frequency count, percentage, arithmetic mean and t-test of significance were applied. The results revealed positive gains and a significant difference from their pre-test and post test scores. The computed mean difference of 3.60 and t-value of 10.998 for 29 degrees of freedom, which is 2.756 at .01 level of confidence, showed that the participants' gained much learning on cellular diversity using e-3D models. All the students achieved positive gain scores on comparing results of the pre-test from the post-test. The use of e-3D instructional cell models was found to be effective in enhancing the academic achievement of the students in terms of content knowledge and communication skills. Their feedbacks brought together the potential and positive outlook towards their studies. The biology grades from prelim to midterm have improved thus, all groups of learners benefited with the use of e-3D cell models. The following are recommended: (1) e-3D instructional models should be used in teaching science professional subjects (2) Conduct similar studies in cell biology or microbiology and (3) Use of other e-3D biological system models for instruction to senior high school science majors.

Keywords: Cellular Diversity, E-3D Model Biological Systems, Academic Achievement in General Biology