Abstract

Teaching and learning of Solid Geometry need special attention in the field of Mathematics Education and very few studies were conducted in this area. The purpose of the study was to develop a Multimedia Instructional Package in Solid Geometry and to test its effectiveness in enhancing Conceptual Clarity, Problem Solving Ability, Achievement as well as Retention in Solid Geometry at Secondary School level by comparing its relative effectiveness with Activity Oriented Method of Instruction. The study was restricted to students at Secondary School level. The topic of investigation was thus entitled ‘Efficacy of Multimedia Package for Learning Solid Geometry at Secondary School Level’.

Survey cum Experimental Method was employed for the study. The research design adopted was the Pre-test Post-test Non Equivalent Groups Design. The Investigator prepared a Questionnaire for Secondary School Teachers to explore the difficulties they experienced in teaching Solid Geometry. Majority of them supported the necessity of a Multimedia Package for teaching Solid Geometry. Then the Investigator prepared a Multimedia Instructional Package and its effectiveness was tested on Conceptual Clarity, Problem Solving Ability, Achievement and Retention in Solid Geometry. The Experimental Group was exposed to the Multimedia Instructional Package and the Control Group to the Activity Oriented Method of Instruction. The scores of the Pre-tests and Post-tests were analysed using appropriate statistical techniques.

The major conclusions of the study were: The Multimedia Instructional Package is more effective than the Activity Oriented Method of Instruction in enhancing Conceptual Clarity, Problem Solving Ability and Achievement in Solid Geometry with regard to the Total Sample and Gender Sub Samples. Besides, the study brought to light the efficacy of the Multimedia Package in instruction relating to Four Components of Conceptual Clarity, Problem Solving Ability in Five Topics of Solid Geometry, and Achievement in Three Domains of Learning. The Package was also found to be effective in enhancing Retention in Solid Geometry.