

**COMPUTER ASSISTED SELF LEARNING STUDY PACKAGE FOR  
G.C.E (ADVANCED LEVEL) STUDENTS  
TO ENHANCE THE UNDERSTANDING OF POLYMERS AND  
POLYMER MANAGEMENT**

**K. Ramani**

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka  
Department of Chemistry, University of Peradeniya, Peradeniya, Sri Lanka

A computer based study package on Polymers and Polymer Management for G.C.E Advanced Level students was designed. A group of 70 students from 3 different schools were first assessed on their prior knowledge on polymer chemistry with a Pre-Test and grouped them into Control Group and Experimental Group. The Control group was taught using the conventional chalk and board method and the Experimental group using an interactive study package. The progress of both groups was recorded after being assessed by a Post-test and using MINITAB 14. The results were statistically evaluated to get a clear conclusion about the output of the study package. Along with the 70 students, 30 teachers were given questionnaires before the experiment regarding their customary methods of learning and teaching respectively and were also asked to state their opinion about the use of a different method for teaching the topic of Polymers and Polymer Management.

The mean score of the 35 students in the control group before (Pre-Test) traditional teaching is 47.03, SD: 15.06 and the mean score of the same students after the traditional teaching (Post Test) is 51.54, SD: 14.6. The Paired T-test analyse revealed that T-value: 7.33, P-value: 0.000 has statistically significant differences. It means that traditional teaching has significant impact on students. The mean score of the 35 students in the experimental group before (Pre-Test) introducing study pack for the Experimental Group students (n=35) is 47.37, SD: 16.15. The mean score after introducing study pack (Post Test) is 54, SD: 14.54. The Paired T-test analyse revealed that T-value: 8.49, P-value: 0.000 has statistically significant differences. It means study pack has a significant impact on students. The variance test for the above samples was also done. The F-test statistic is 0.62 and P-value is 0.17 implies statistical significance.

It was apparent that both teachers and students had a great tendency towards computer assisted teaching methods with regard to polymer chemistry.