ABSTRACT

The purpose of this educational research study was to investigate the effect of E-Learning in Science education at General Certificate of Education at Ordinary Level in Sri Lanka. This research examined (i) the differences of the results of students who used E-Learning and who did not (ii) whether the differences were positively or negatively related (iii) and whether the differences are statistically significant or not.

This study was a quasi-experimental study design (nonequivalent control group design) which included a nonrandomized sampling design involved an experimental group (treatment group) and a control group both have a pretest and posttest assessment. The study population comprised 270 students of a girl's school in the western province. Due to the convenience of preparation of additional E-Learning material one English medium class was selected as the treatment group. As there was only one English medium class, the control group was selected from one of the Sinhala medium classes. Each group consisted of 37 students. This study has one independent variable, which was video lessons, and one dependable variable, which was student performance. The quantitative data was collected through pretest and posttests. A question paper was given at the pretest for both the groups at the end of one month of teaching of the chapter one lessons. The treatment group was intervened by giving a CD which contained video lessons. The posttest was conducted on both groups using the same question paper after one month. A questionnaire was given to the students of treatment group and a face interview was conducted with the control group students to obtain students' background environment and activities at school and at home. The study has a null hypothesis (H_0) which was *E-Learning does not enhance students performances* and the alternative hypothesis (H_1) which was *E-Learning enhances students' performance*. The directional hypothesis was tested using one tailed t-test in order to find out whether there was a statistically significant deference between the posttests means of the treatment and control groups. Three additional tests between groups' and between pretests and posttests were also conducted in order to confirm the validity of the results. The findings showed that there was a statistically significant deference between the means of posttests of both groups. The treatment group posttest mean was higher than the control group posttest mean. Therefore, the results suggested that the intervention might have helped to increase the students' performance.